# DT22

## Dual Tuner with Sirius Capability

**INSTALLATION MANUAL**

ELAN
HOME SYSTEMS

## ⚡ WARNING ⚠

### RISK OF ELECTRIC SHOCK
### DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).  NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

### WARNING: TO REDUCE THE RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## ⚠ CAUTION ⚠

**Read Information**—All the safety and operating information should be read before the appliance is operated.
**Follow Information**—All operating and use information should be followed.
**Retain Information**—The safety and operating information should be retained for future reference.
**Heed Warnings**—All warnings on the appliance and in the operating instructions should be heeded.
**Wall Mounting**—Mounting of this appliance should be done only by an authorized installer.
**Ventilation**—The appliances should be situated so that their location or position does not interfere with their proper ventilation. These appliances should never be placed near or over a radiator or heat register.
-These appliances should not be placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
**Non-Use Periods**—Appliances that are left unattended and unused for long periods of time should be de-energized.
**Grounding or Polarization**—Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one blade wider than the other blade. A grounding type plug has two blades and a third grounding prong. The polarized wide blade and the third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
**Power Cord Protection**—Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
**Water**—Do not use the apparatus near water.

## ⚡ WARNING ⚠
### RISK OF ELECTRIC SHOCK
### DO NOT OPEN

**Cleaning—**Unplug the apparatus from the power outlet before cleaning. Use only a dry cloth to clean the apparatus.

**Power Lines—**An outdoor antenna should be located away from power lines. When installing an outside antenna. system, extreme care should be taken to avoid touching power lines or circuits, as contact with them may be fatal.

**Object and Liquid Entry—**Never insert objects of any kind through the openings of these appliances, as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Care should be taken so that objects do not fall and liquids are not spilled into the appliance through openings in the enclosure.

**Servicing—**Do not attempt to service these appliances yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**Damage Requiring Service—**These appliances should be serviced by qualified service personnel when:
  • A power supply connection or a plug has been damaged or
  • If liquid has been spilled into the appliance or objects have fallen into the appliance or
  • The appliance has been exposed to water or moisture or
  • The appliance does not appear to operate normally or exhibits a marked change in performance or
  • The appliance has been dropped or the enclosure damaged.

**Replacement Parts—**When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards. The Master Control Unit battery should be replaced only after turning the power off and only by an authorized installer.

**Safety Check—**Upon completion of any service or repairs to this audio product, ask the service technician to perform safety checks to determine that the audio product is in proper operating condition.

**Lightning Storms—**Unplug this apparatus during lightning storms or when unused for long periods of time.

**Attachments and Accessories—**Use only attachments/accessories specified by the manufacturer.

**Cart, Stand, Tripod, Bracket or Table—**Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip over.

**Disconnect Device—**Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain operable.

**NOTE:**
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not in-stalled and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  • Reorient or relocate the receiving antenna.
  • Increase the separation between the equipment and receiver.
  • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  • Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:**
Changes or modifications not expressly approved by Elan Home Systems could void the user's authority to operate the equipment.

# Table of Contents

# Introduction

Thank you for choosing the ELAN DT22 Dual AM/FM Tuner.  The ELAN DT22 Dual Tuner is two AM/FM digital tuners in one standard-sized audio component.  Each tuner has its own audio output so that each may be listened to independently.  The DT22 features a total of 396 AM/FM presets plus 396 SIRIUS presets per chassis.  When used in conjunction with ELAN Touch Panels, the combination of Direct Access tuning and a plethora of Presets makes control of the DT22 easy and intuitive – from anywhere in your home.

The DT22 includes a front panel IR receiver, full function handheld remote, and rear panel control ports for IR, VIA!NET and serial control. Two-way feedback, including station call letters, frequency, genre, song name and artist, can be displayed on any ELAN Touch Panel or Olé Interactive Touchpad without the use of an SS1, SC1 or SC4.

With a 128 x 64 graphical LCD and front panel button access, the setup is easy. Through guided setup processes including Network and Ethernet to a full diagnostics menu that includes signal strength and SIRIUS signal detection the DT22 allows the installation to be intuitive. Even the programming of favorite stations by the user is guided to allow easy setup.

**NOTE:** The SCH1 **(sold separately)** is all that is needed to add SIRIUS Satellite Radio to an ELAN DT22 Dual Tuner.  Refer to Appendix C for detailed setup and use information.
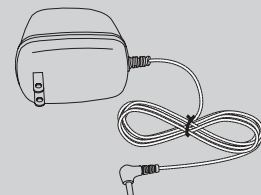
## Package Contents

A  **SCH1 SIRIUS Connect Tuner**
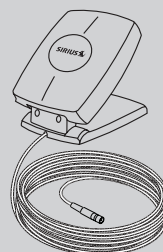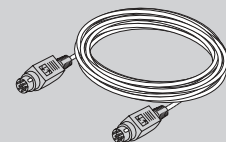B  **Windowsill Antenna**
C  **AC Power Adapter**
D  **DIN Cable**

## Listening to Satellite Radio

To listen to Satellite Radio, you'll need to connect a SIRIUS-Ready receiver. SIRIUS Satellite Radio is available to residents of the US (excluding Alaska and Hawaii) and Canada.

Satellite Radio delivers a variety of commercial-free music from categories ranging from Pop, Rock, Country, R&B, Dance, Jazz, Classical and many more plus coverage of all top profesional and college sports including play by play games from select leagues and teams. Additional programming includes expert sports talk, uncensored entertainment, comedy, family programming, local traffic and weather and news from your most trusted sources.

Once you've purchased a Sirius tuner you'll need to activate it and subscribe to begin enjoying the service. Easy to follow installation and setup instructions are provided with the SIRIUS tuner. There are a variety of programming packages available, including the option of adding "The Best of XM" to the SIRIUS service enabling you to enjoy the most popular programming among both services. Family friendly packages are also available to restrict channels featuring content that may be inappropriate for children.

To subscribe to SIRIUS, U.S. and Candian customers can call 1-888-539 SIRI (1-888-539-7474) or visit sirius.com (US) or siriuscanada.ca (Canada).

SIRIUS, XM and all related marks and logos are trademarks of SIRIUS XM Radio Inc. and its subsidiaries. All other marks and logos are the property of their respective owners. All rights reserved. SIRIUS subscription sold seperately. Taxes and a one-time activation fee may apply. SIRIUS tuner required (sold seperately) to receive the SIRIUS service. All programming and fees subject to change. It is prohibited to copy, decompile, reverse engineer, hack, manipulate or otherwise make available any technology or software incorporated in receivers compatible with the SIRIUS Satellite Radio System. **Service not available in Alaska or Hawaii.**

## Product Highlights

- Two AM/FM Digital Tuners

- Satellite Radio Ready.  Add one or two SIRIUS Tuner Modules (sold separately)

- Four Sets of independent Outputs for Multi-Room Listening

- Link Two DT22s to Provide Up to 4 AM/FM Tuners and 4 SIRIUS Tuners

- Preset or Direct Numeric Access

- 4 Preset Groups labeled A, B, C, and D for easy preset organization.

- 99 flexible presets in each group.  Each preset can hold either an AM, FM, or SIRIUS station.

- 396 Presets shared across 2 AM/FM Tuners plus 396 Presets shared across 2 SIRIUS Tuners.

- Easy Setup and Diagnostics With Front Panel Buttons and Graphical LCD

- View Radio Station & "Now Playing" RDS information on ELAN User interfaces (EM version VIA! panels only)

- VIA!NET, Ethernet, Serial and IR Controllable.

- Use With Any ELAN Wireless Touch Panel, Olé Touch Pad, or EM version LCD Touch Panel.

- New ELAN SmartSource (Does not require a System SS1, SC1 or SC4 for Two-Way Feedback)

- Displays RDS (Radio Data System)

- cTUVus Certified, CE®, CB Scheme, FCC part 15, and C-tick

## Items in package

- DT22 Tuner

- Rack Mount Brackets

- DT22 Remote Control

- AM Loop Antenna

- FM Antenna

- Installation Manual

- AC line cord

- SIRIUS Tuner Modules sold separately

## Front Panel (Hard Buttons)
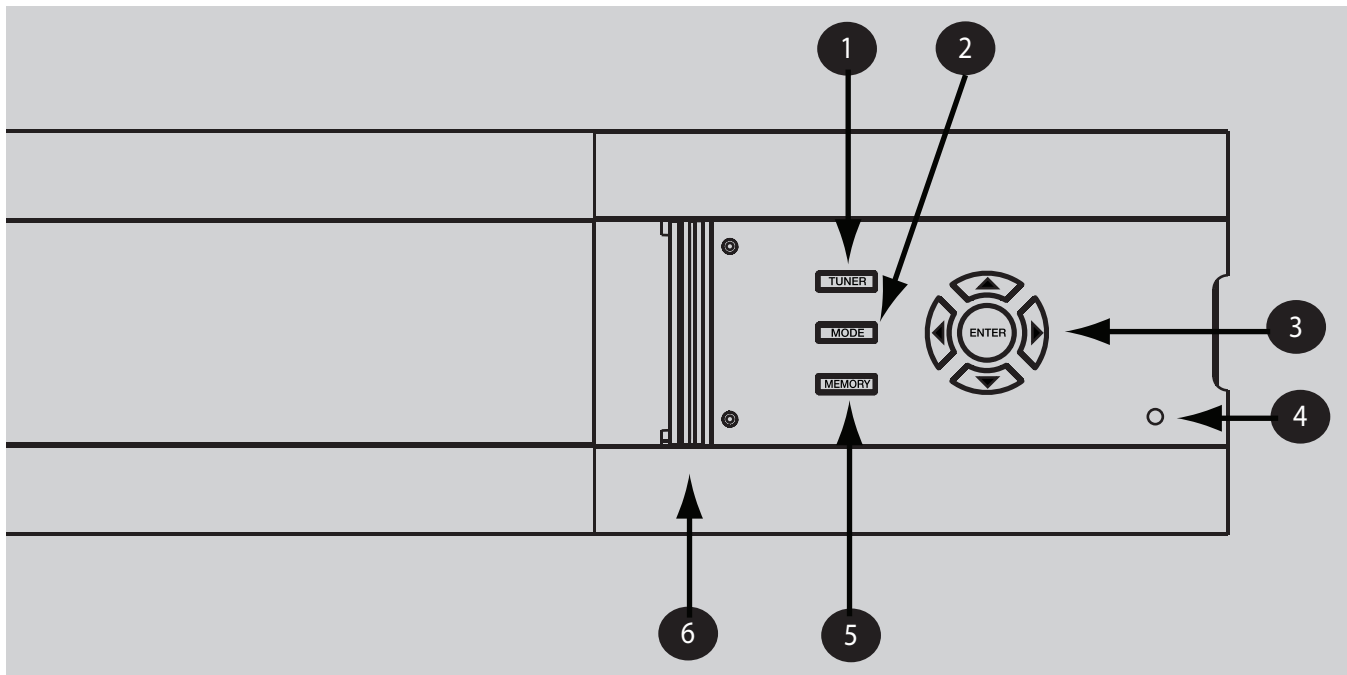


*DT22 Front Panel Controls & Indicators*

| Item | Name | Item | Name |
|------|------|------|------|
| **1** | Tuner Select Button | **4** | Power LED |
| **2** | Mode Button | **5** | Memory Button |
| **3** | Navigation Arrows and Enter Button | **6** | Access Door (Shown Open) |

## Front Panel LCD
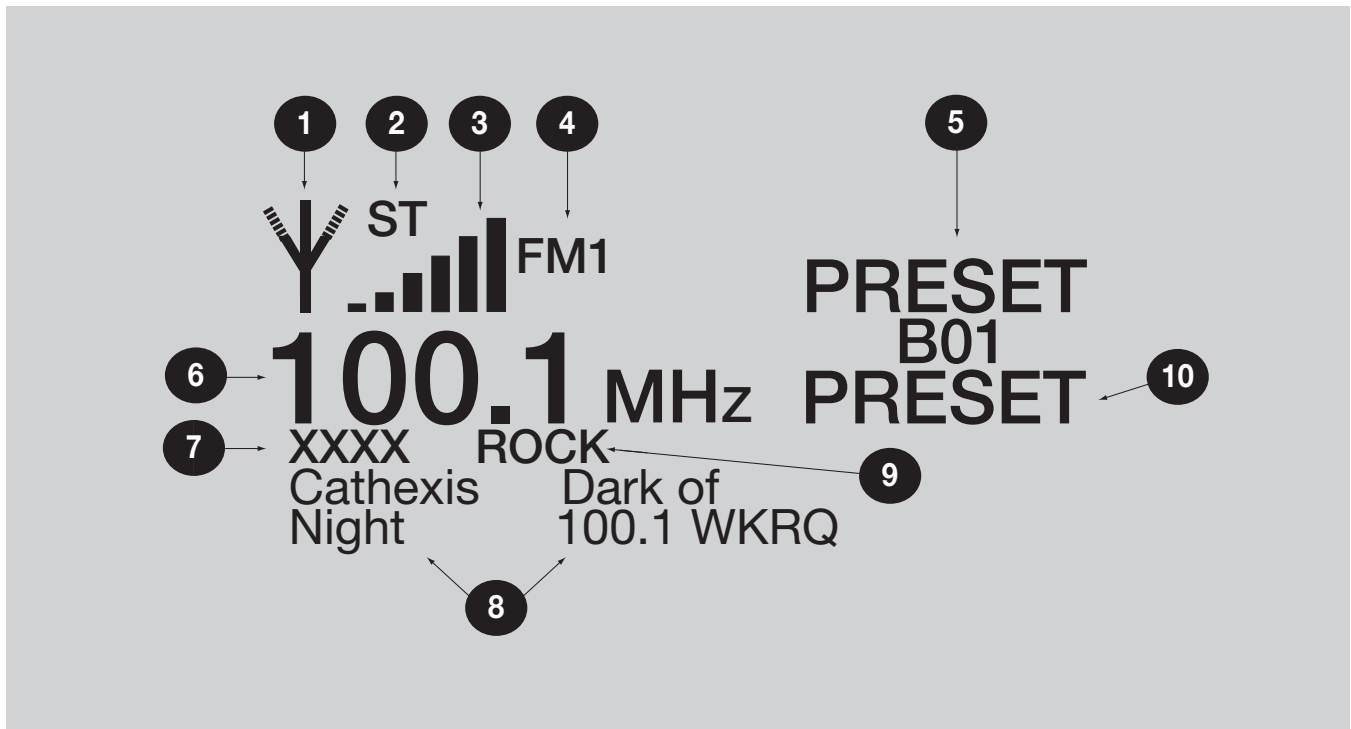


*Graphical LCD*

| Item# | Function | Item# | Function |
|---|---|---|---|
| 1 | Signal Indicator | 6 | Station Frequency |
| 2 | Stereo Indicator | 7 | Custom Text |
| 3 | Signal Strength Indicator Bar | 8 | RDS Radio Text |
| 4 | Tuner Mode Indicator | 9 | Station Genre/Category |
| 5 | Current Tuned Preset | 10 | Preset/Direct/Category Mode |

## Rear Panel
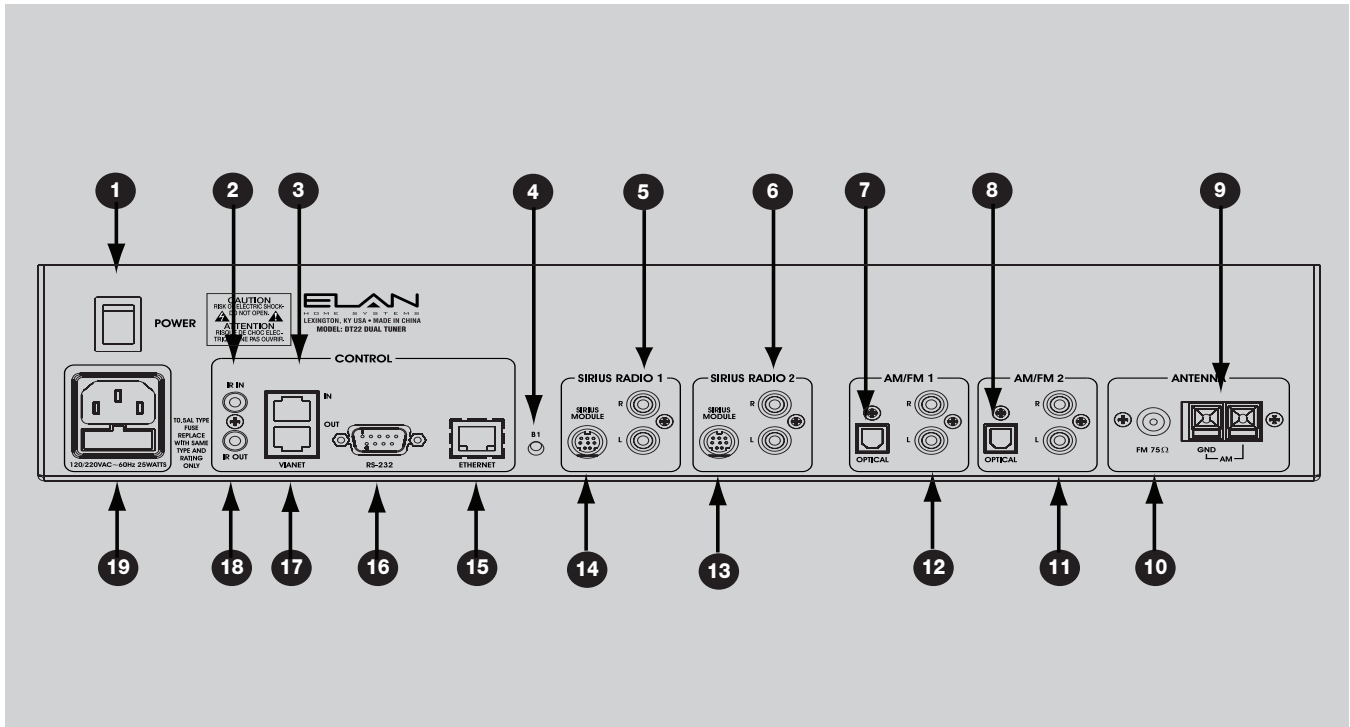


*Rear Panel Connections*

| Item# | Function | Item # | Function |
|---|---|---|---|
| 1 | Power Switch | 11 | AM/FM 2 Analog RCA Output |
| 2 | IR IN | 12 | AM/FM 1 Analog RCA Output |
| 3 | VIA!NET Input | 13 | SIRIUS 2 Analog RCA Output |
| 4 | B1 Button | 14 | SIRIUS 1 Analog RCA Output |
| 5 | SIRIUS Tuner Module 1 Connection | 15 | Ethernet Port |
| 6 | SIRIUS Tuner Module 2 Connection | 16 | RS-232 Port |
| 7 | AM/FM 1 Digital Audio Output | 17 | VIA!NET Out |
| 8 | AM/FM 2 Digital Audio Output | 18 | IR OUT |
| 9 | AM Antenna Connector | 19 | Power Inlet/Fuse Holder |
| 10 | FM Antenna Connector | | |

## Rack Mounting

When mounting the DT22 Tuner in an equipment rack, use the included Rack Mount Brackets for secure mounting and proper ventilation.  The DT22 requires two rack spaces.

To install the DT22 into a standard 19" equipment rack:

1. Slide the rack mount brackets onto the DT22 chassis from the front as shown in *Figure 14-1*.
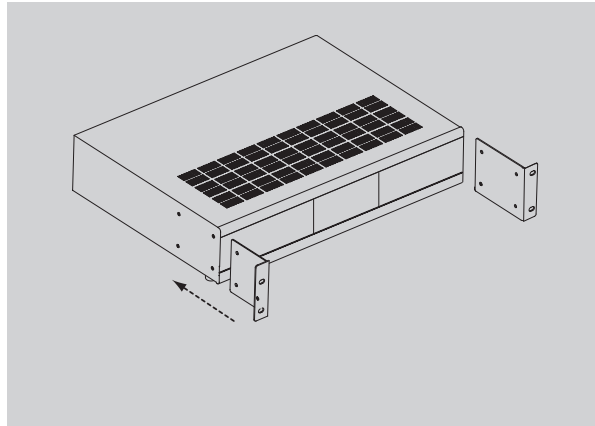


2. Ensure that the brackets are flush with the front of the unit.  Install each of the eight screws (included) through the side mounting flanges into the holes in the sides of the unit as shown in *Figure 14-2*.  Hand tighten screws! Over-tightening could cause damage to the DT22 Tuner.
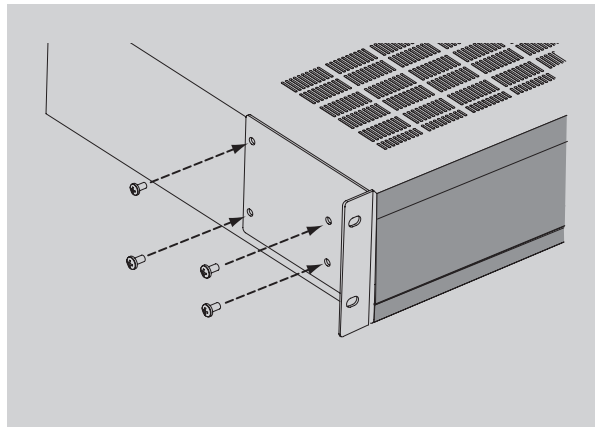


3. Once the brackets are securely mounted, install the entire assembly into a standard 19" equipment rack from the front using four rack screws (not included).  Two rack spaces will be used.  See *Figure 14-3*.



19" Equipment Rack

Rack Screws
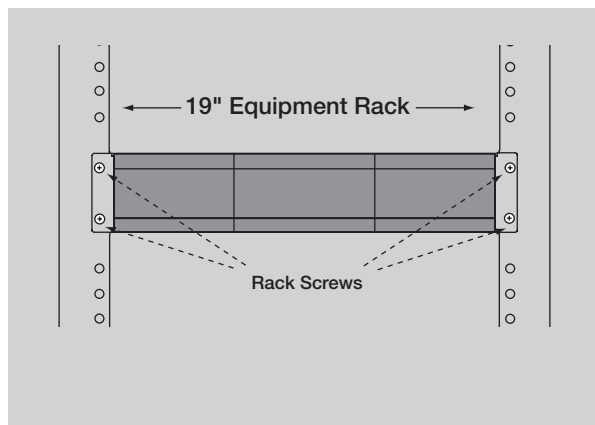
# Connections

## IR

The DT22 can be controlled using the 3.5mm ('mini') IR jack on the back panel.  There is also an 3.5mm IR Loop Output jack included to connect to additional DT22s.

*S128P Source IR Out to DT22 IR Loop Connections*
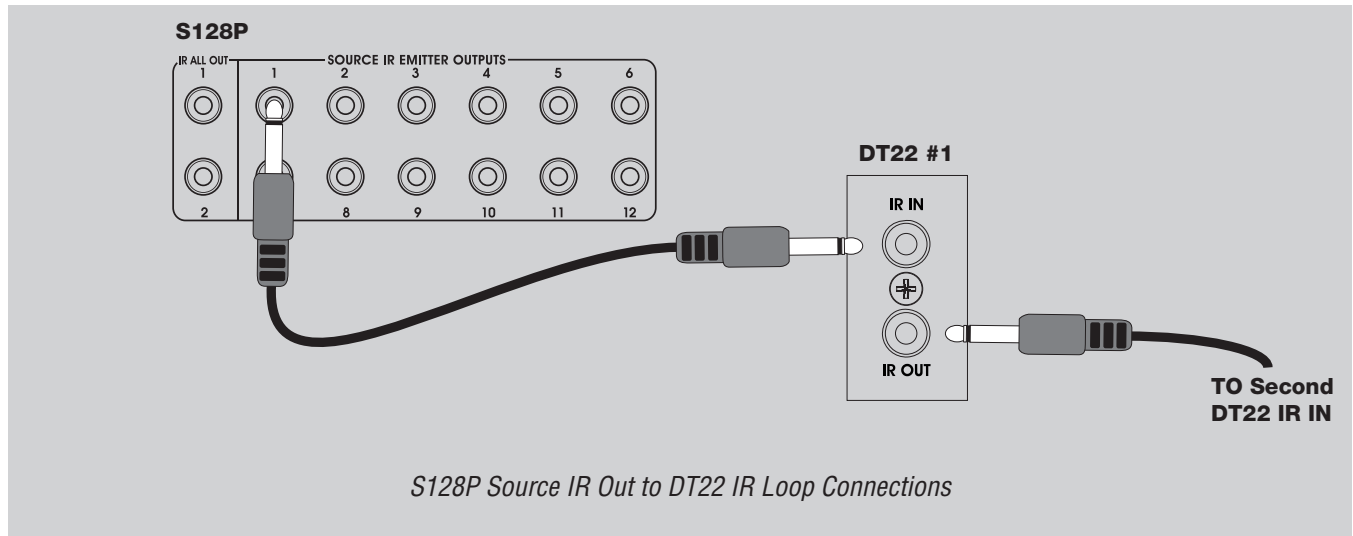
## RS-232

The RS232 port on the back of the unit is used to connect the DT22 to a computer to facilitate firmware updates and download tuner configuration parameters for troubleshooting.
It can also be used to control Direct and Preset features.

*RS-232 Connection*
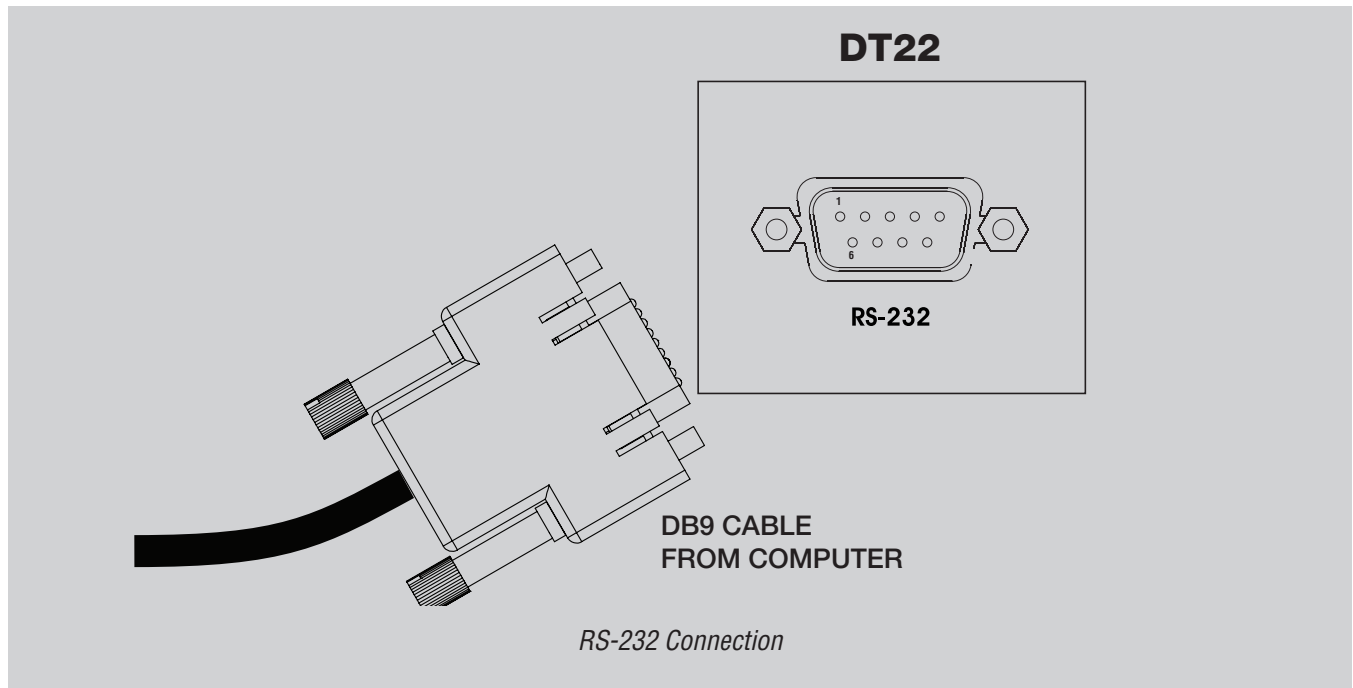
## VIA!NET

Use the VIA!NET ports when controlling the DT22 with ELAN Touch Panels, SC-1 Serial Controller, SS1 System Station and/or other VIA!NET devices.  The VIA!NET ports on the DT22 can be daisy-chained between chassis and other VIA!NET devices.

Use an RJ-45 to RJ-45 interconnect cable to make all VIA!NET connections.

Use the following diagram when connecting a S86A/S86P and not using an SPP.



*VIA!NET Connections*
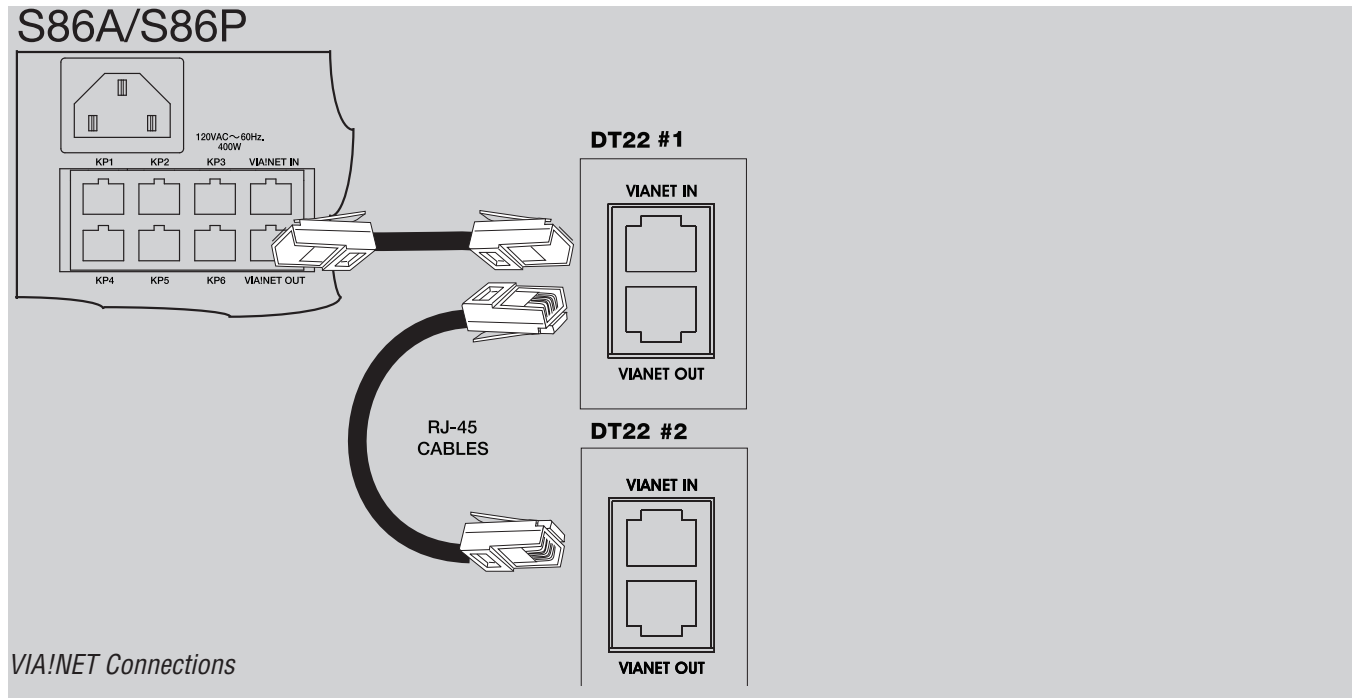
If there is not a System SS1 or System SC1 in the system, make the following connections.



*VIA!NET Connections*
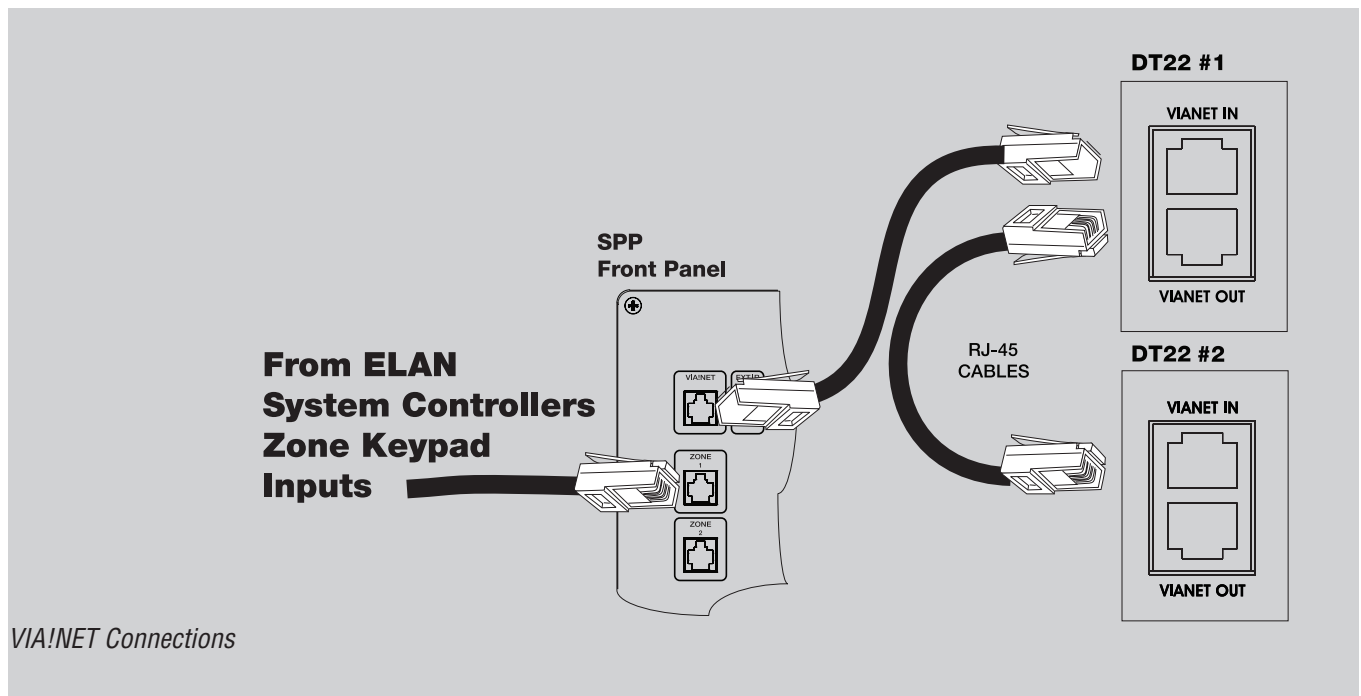
If a System SS1 or System SC1 is in the system, use the following connections.



*VIA!NET Loop Connection*
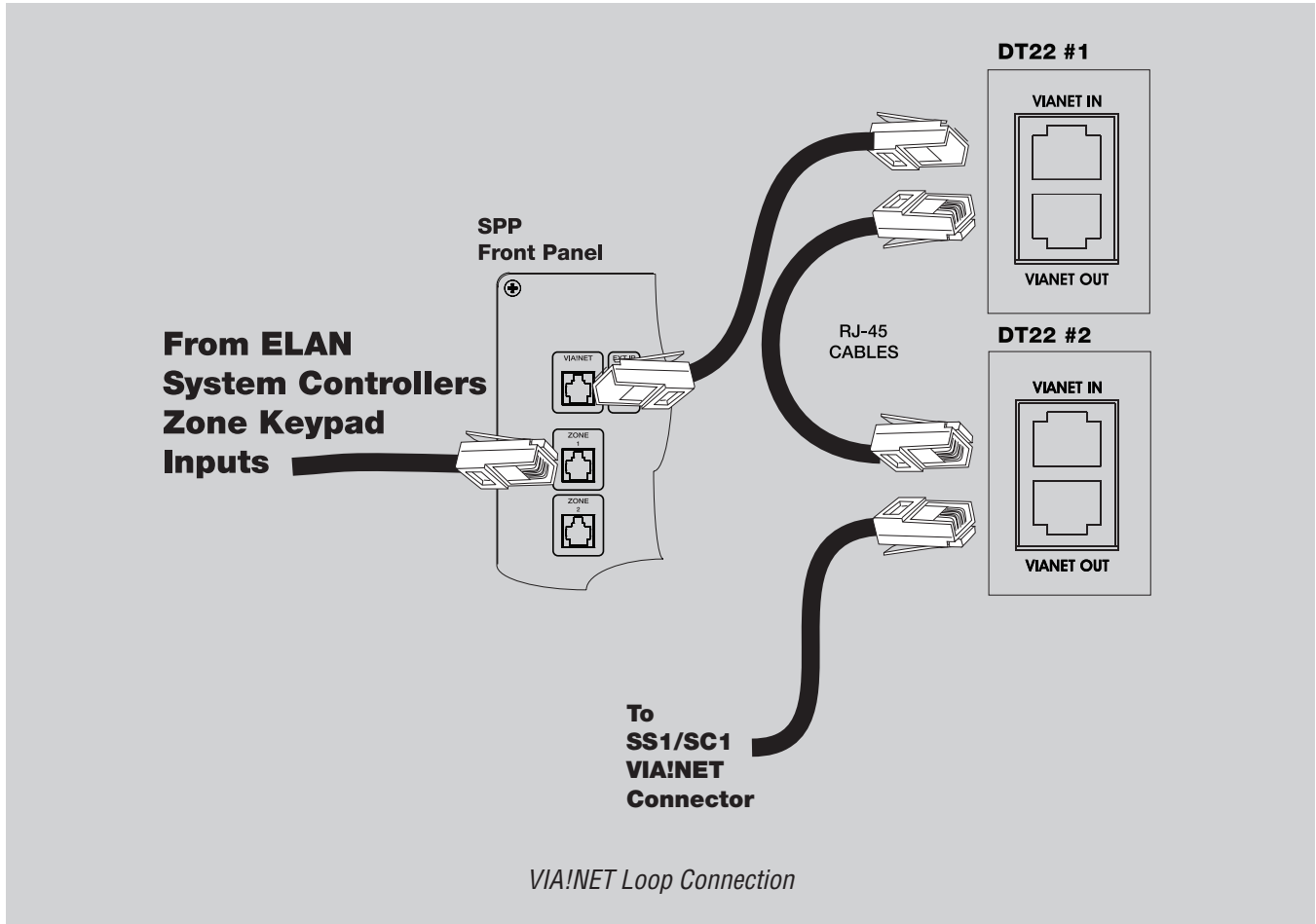
## Ethernet

The **ETHERNET** port can be used to connect the DT22 to a LAN (Local Area Network) connection for Firmware Updates.  It may also be used by supported software applications to communicate with the DT22.  An Ethernet cable wired to T568A (or T568B) should be used in conjunction with this connection.



*T568A Ethernet Connection*
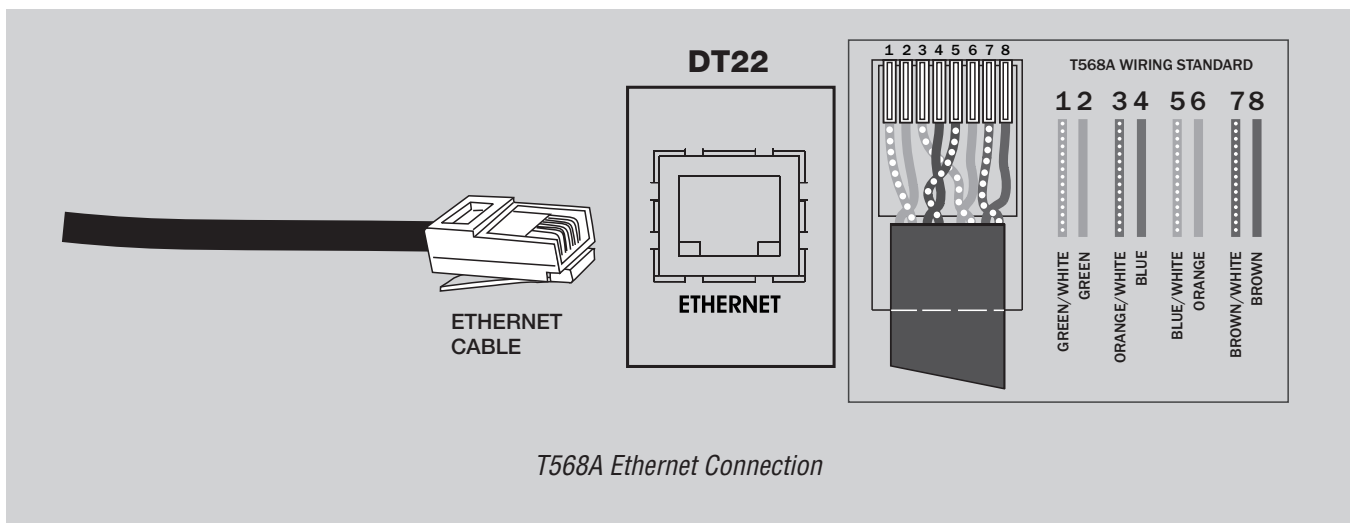
## RCA Audio

Using RCA-type interconnect cables, connect all active tuner audio outputs to pairs of inputs on an ELAN preamp controller (e.g. S66A, S86A/P, S128P or to a stereo receiver). Make sure to connect Left channel outputs to Left channel inputs and Right channel outputs to Right channel inputs.



*RCA Audio Connections*
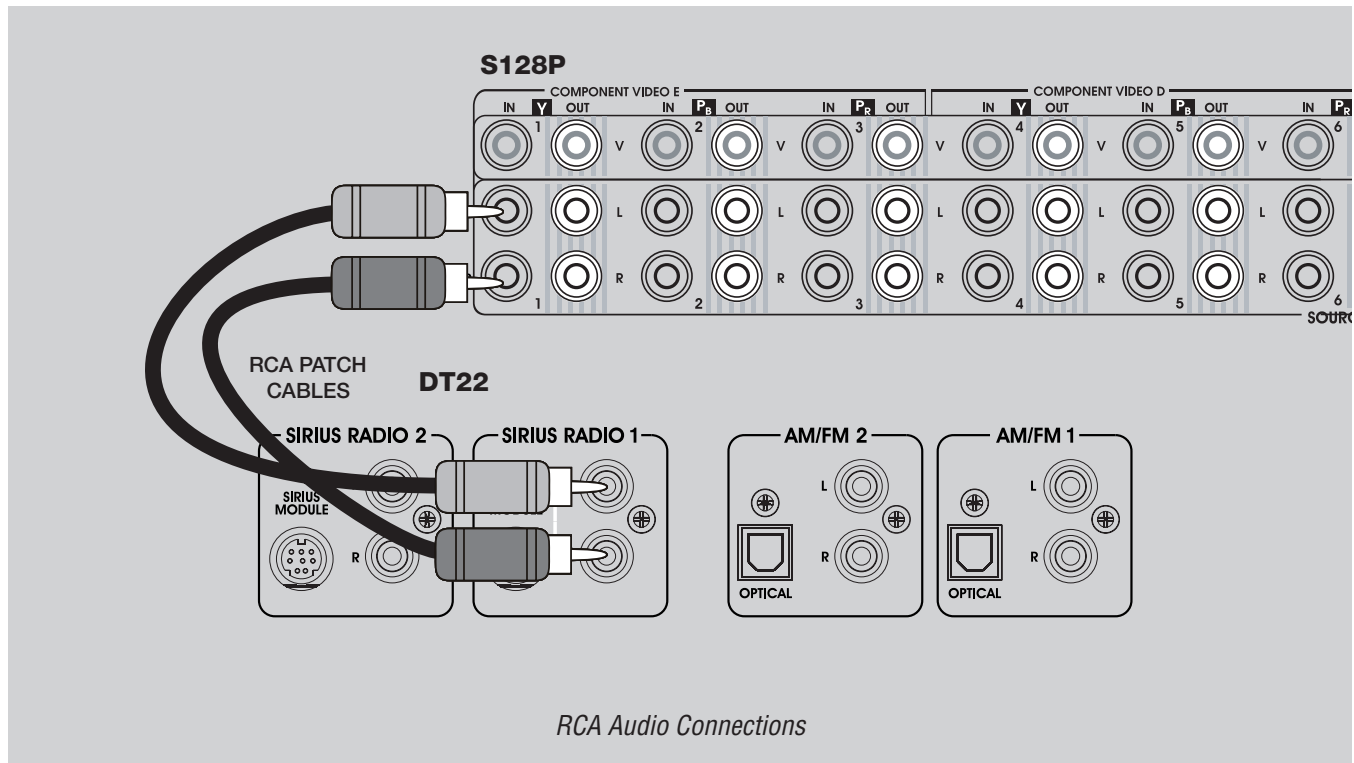
## OPTICAL Audio

Using an Optical interconnect cable, connect TUNER 1 and/or TUNER 2 Optical output(s) to any Optical input(s) on a Stereo Receiver, Digital Audio Wallplate, or Home Theater Receiver.



*OPTICAL Audio Connections*
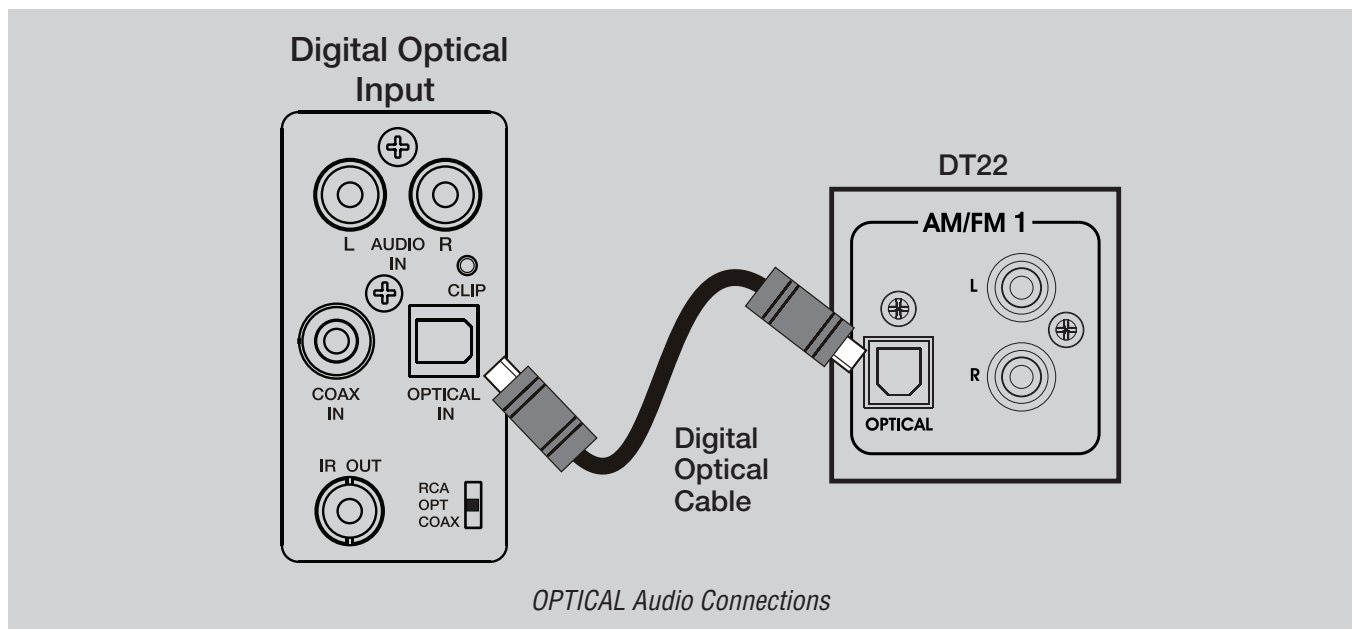
## AM Loop Antenna



*AM Loop Antenna*
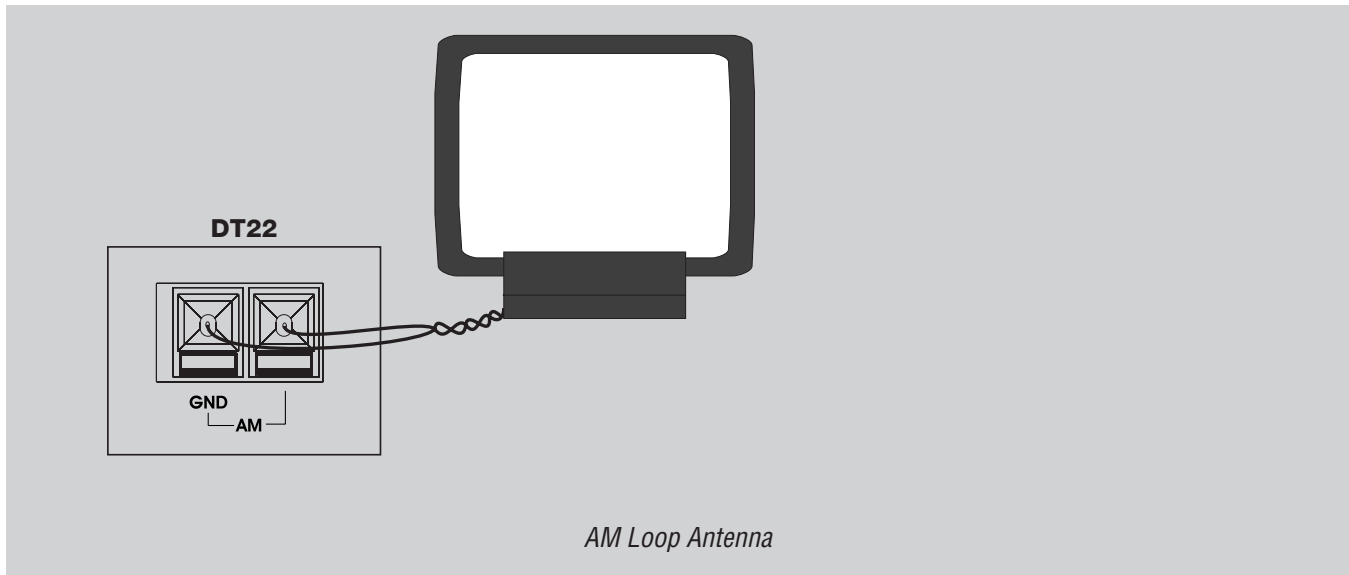
The AM antenna is connected to the terminals marked AM/GND.  These connections are not polarity sensitive, so it does not matter which wire is connected to the GND or AM terminals.

To prevent unwanted noise, place the antenna as far away as possible from other electronics, speaker cords, power cords and amplifiers.

## FM Antenna



*Indoor FM Antenna*
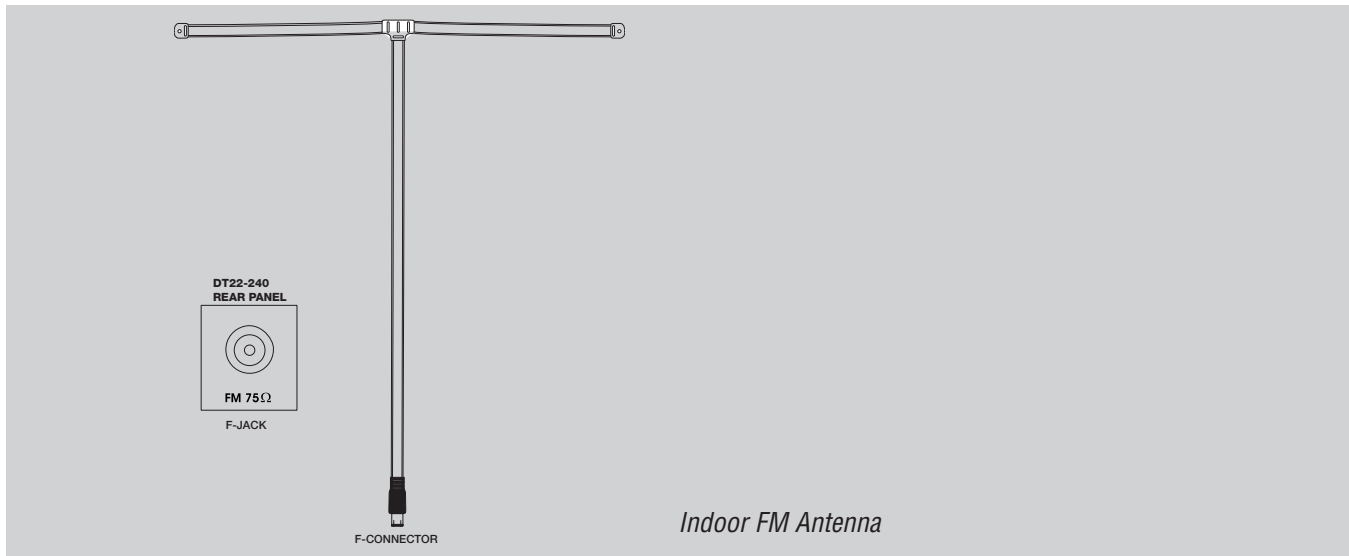
Connect the included FM antenna to the FM (coaxial) jack.  Generally, a T-type twin lead antenna will be sufficient; if you live in an area where the FM signals are particularly weak, it may be necessary to install an outside or rooftop antenna.

If standard FM broadcast frequencies are available via your cable service, you may connect your 75 ohm FM antenna jack to your cable system.  Please contact your cable service to discuss this option.

## SIRIUS Tuner Module Connections



*Front Panel Connections*
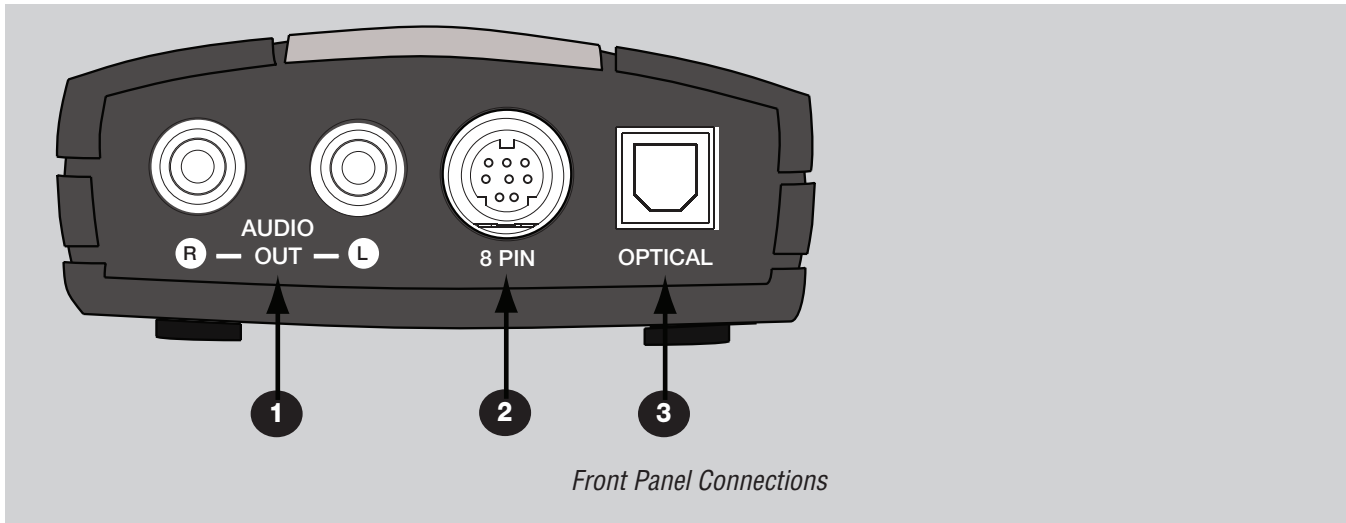
| Item | Name |
|------|------|
| 1 | Analog Audio Out (not used) |
| 2 | 8 Pin DIN -- Connects to DT22 |
| 3 | Optical Connection |



*Rear Panel Connections*
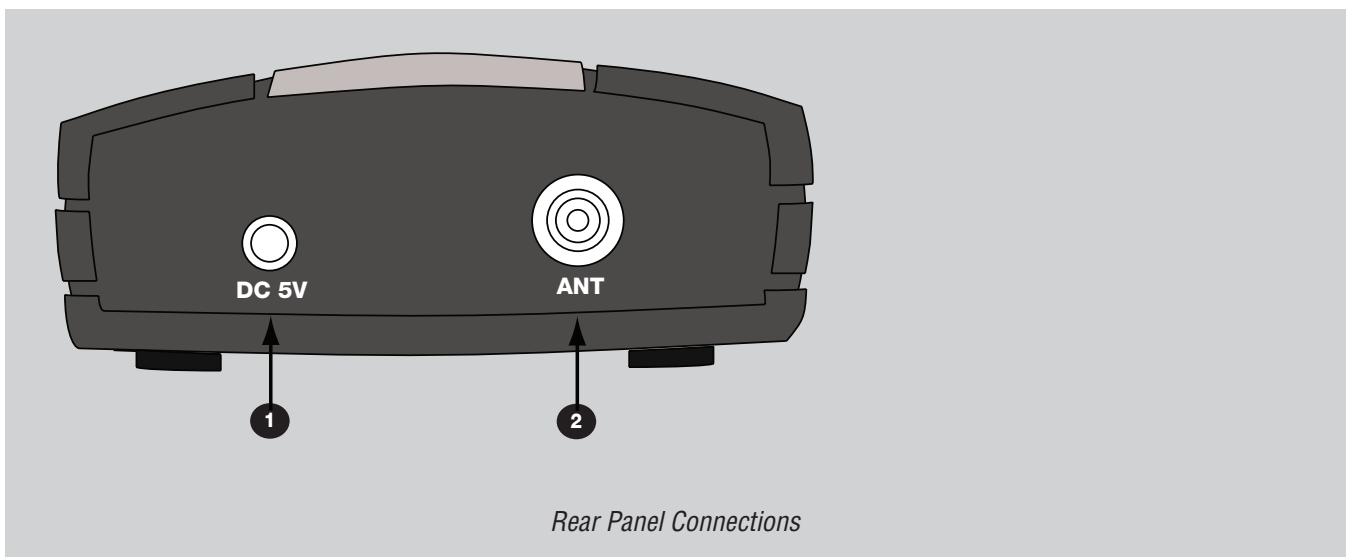
| Item | Name |
|------|------|
| 1 | 5 VDC power connection (not used) |
| 2 | Satellite Antenna Connection |

*SIRIUS Satellite Antenna*
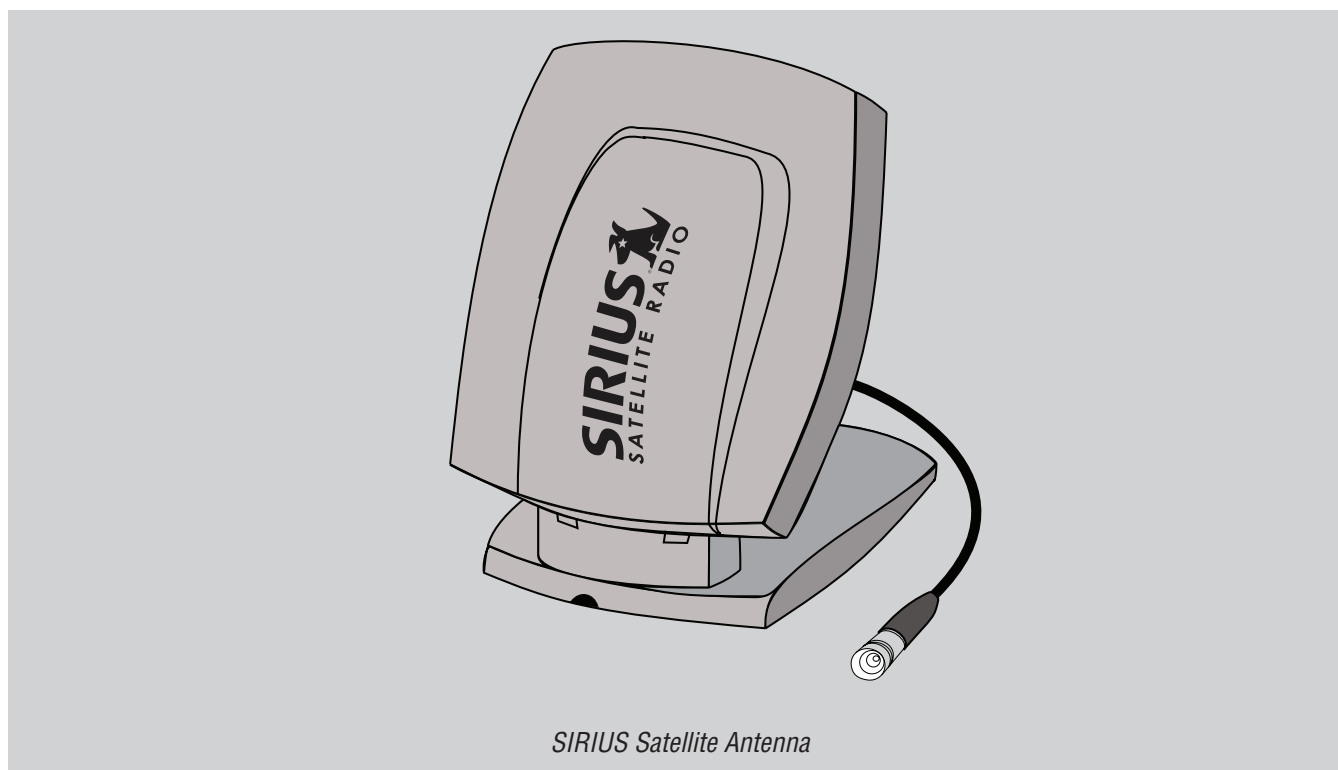
## Positioning the Sirius Antenna

Prior to mounting the antenna or finding a permanent home for your DT22, you first want to validate the position of the antenna.

1. Power on DT22 to make sure the SIRIUS module has power.
   You should see a startup screen with the ELAN logo, followed by the main display.

2. Power off DT22, and then connect the audio cables, IR, and RS232 control interfaces to the other components in your audio system.

3. Align the Antenna as follows:

### For Indoor installation on a flat surface:
   a) Set antenna on its base on a flat horizontal surface.
   b) Turn the base of the antenna so that the SIRIUS logo is facing to the northwest if you are in the eastern half of the U.S. and to the north/northeast if you are in the western half.

   **Note: It will help to imagine that the SIRIUS satellites are in the sky above northern Minnesota. That's the optimal direction in which you need to aim the antenna.**

   c) Use the "Signal Strength" screen, as described on page 74, to optimize antenna tilt angle and position.
   d) If necessary, experiment with different locations near a north-facing window or outside.

### For outdoor installation or indoor wall mounting:

The antenna can also be attached vertically to an external or internal wall if that is more convenient than placing it on a horizontal surface.
   a)  Holding your antenna up, find a wall location that ensures a strong signal.
   b)  Attach antenna to the wall using four screws.
   c)  Tilt the antenna fully back on the base, place the antenna base on the four screw heads with the antenna pivot at the top, and pull down approximately 1/4 inch until the base is firmly secured. Note that the SIRIUS logo will be upside down when the antenna is properly installed.
   d)  Tilt the antenna away from the wall/base until the signal strength is optimized.

4.  Power on your sound system and turn the amplifier to a low volume.

5.  Power on DT22 and tune to channel 184, a free preview channel.

    If the system is working, you will hear SIRIUS programming on this channel and can proceed to Step 6.
    If there is a problem with the antenna connection, the DT22's front panel display will read "Antenna Error".  If the antenna does not have a clear path to the satellites, the front panel display will read "Acquiring Signal". Reposition the antenna until you hear music playing.

6.  Finish installing DT22.
   a)  House DT22 in its permanent location. Follow the instructions in the section, "Appendix B: Rack Mounting".
   b)  Activate the unit following the "Activating SIRIUS radio" instructions.

## Rear Panel Power Switch

The DT22 master power switch is located on the rear panel.  The switch must be in the ON position to allow the tuner to operate.  To reduce power consumption when away for extended periods of time, set the master switch to the OFF position.  To return tuner to normal operation, set the switch to the ON position.
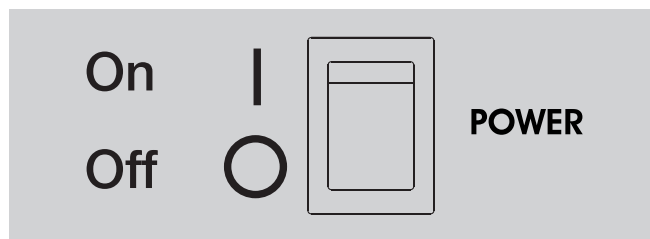


*Rear Panel Power Switch*

## Operation

The DT22 provides intuitive control of its various functions via its front panel buttons (as shown on the next page), from ELAN Touch Panels and Olé Touchpads, the remote control, and its hard wired IR input.  The DT22 is essentially two completely independent AM-FM radio tuners (add another DT22 for a total of four)—each of which can be tuned independently so that different audio channels play in different rooms.

From the interface within each zone you can:

   •  Change channels (either by preset or direct tuning)
   •  View RDS information (on supported panels)

## Default Display

The default display, as shown below, provides information about the channel each tuner is currently tuned to, including category name, channel number, channel name, artist name, and song title.
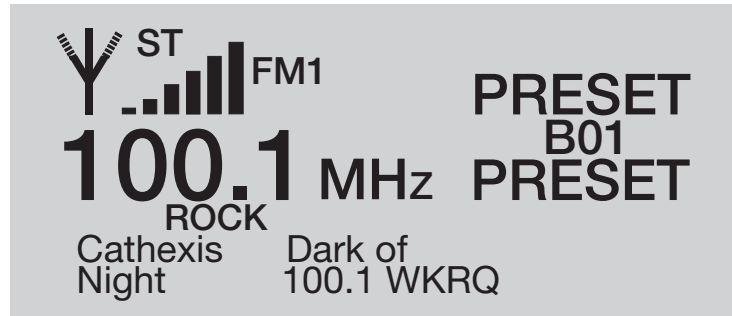


*LCD Display*

## Front Panel
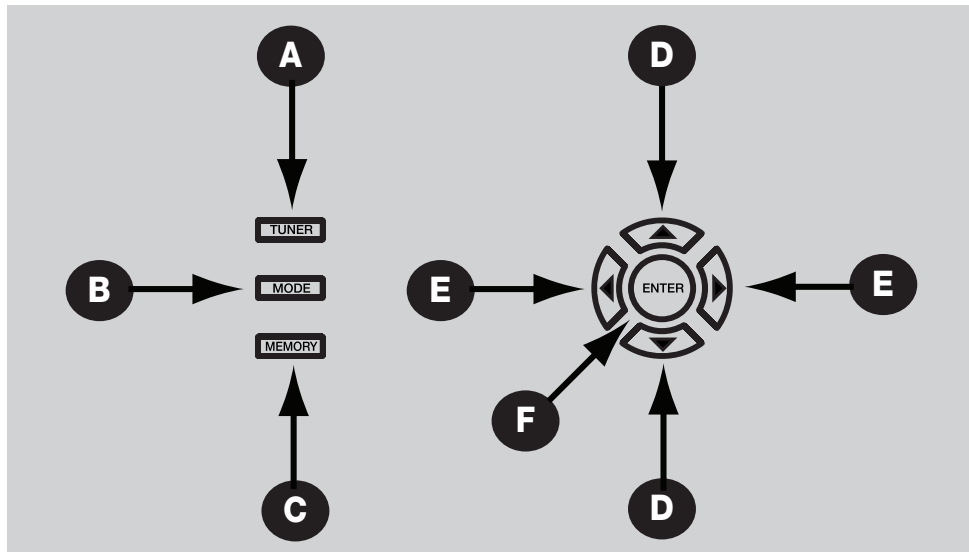


*Front Panel Controls*

### A.  TUNER

- Switches between Tuner 1, Tuner 2, SIRIUS 1 and SIRIUS 2.

- Press and Hold to turn the DT22 On or Off.

### B.  MODE

- Displays the Mode Menu on the LCD that allows settings - AM/FM, Preset/Direct/Stereo/Mono - to be changed using Arrow Up/Down buttons without the use of a remote.

### C.  MEMORY

-  Displays the Memory Menu on the LCD that allows Presets to be either saved or deleted using Arrow Up/Down buttons without the use of a remote; each Group (A,B,C,D) has 99 presets.

### D.  ARROW Up/Down

- Use these buttons to Seek after the Tuner button is pressed, navigate the Mode On-Screen-Display after the Mode button is pressed or navigate the Memory On-Screen-Display after the Memory button is pressed.

### E.  ARROW Left/Right Buttons

- Use these buttons to Increment/Decrement or Step the frequency after the Tuner button is pressed, do nothing after the Mode button is pressed.

### F.  F ENTER Button

- Use this button to verify or confirm an intended operation or function.
- In AM/FM, the button is used to bring up overrides, details, exit, in SIRIUS it cycles through data

## Mode Menu

Mode Menu submenus:
- AM/FM
- Preset/Direct
- Stereo/Mono

## AM/FM

1) Toggle the **Band** from **AM** to **FM** or from **FM** to **AM**.

2) Press the **MODE** button.
3) Highlight **AM/FM** using the **UP** arrow or **DOWN** arrow buttons.
4) Press the **ENTER** button.
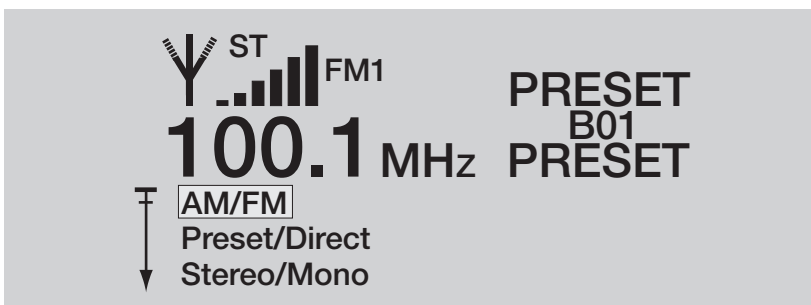


## Preset/Direct

Places the Tuner in **Preset** or **Direct** mode.
**Direct** places the tuner in **Direct** mode.
**Preset** places the tuner in **Preset** with the current selected **Group** selected.
   **Preset Group A** places the Tuner in Preset mode and changes the Tuner to **Group A**.
   **Preset Group B** places the Tuner in Preset mode and changes the Tuner to **Group B**.
   **Preset Group C** places the Tuner in Preset mode and changes the Tuner to **Group C**.
   **Preset Group D** places the Tuner in Preset mode and changes the Tuner to **Group D**.

No preset exists for the tuned frequency if "--" is displayed after the group, like it is in the following image "B--".

ST FM1
100.1 MHz          PRESET
                    B--
                    PRESET
↕ AM/FM
| Preset/Direct
↕ Stereo/Mono
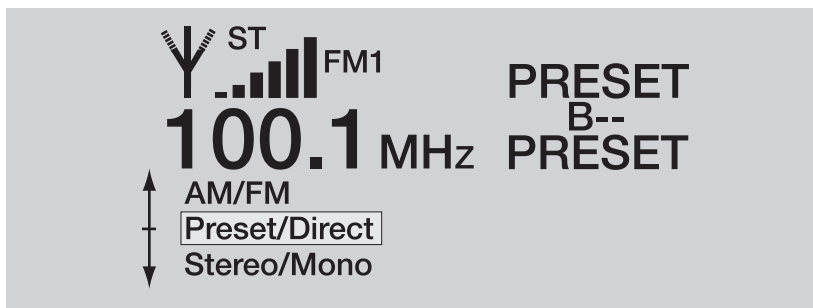
1) Press the **MODE** button.

2) Highlight **Preset/Direct** using the **UP** arrow or **DOWN** arrow buttons.

3) Press the **ENTER** button.

ST FM1
100.1 MHz          PRESET
                    B01
                    PRESET
↕ AM/FM
| Preset/Direct
↕ Stereo/Mono
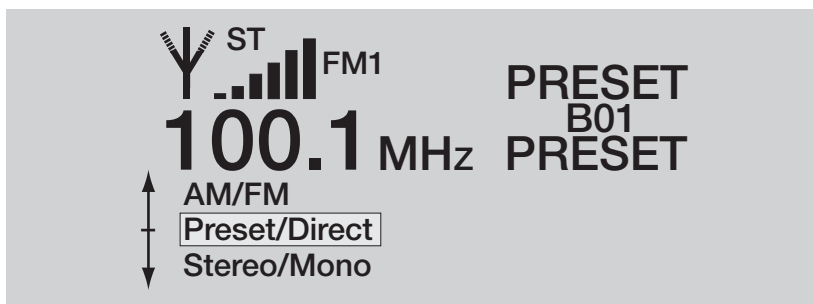
1) Highlight **Direct**, **Preset**, **Preset Group A**, **Preset Group B**, **Preset Group C**, or **Preset Group D** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button when done.

ST FM1
100.1 MHz          PRESET
                    B01
                    PRESET
| Direct
  Preset
↓ Preset Group A
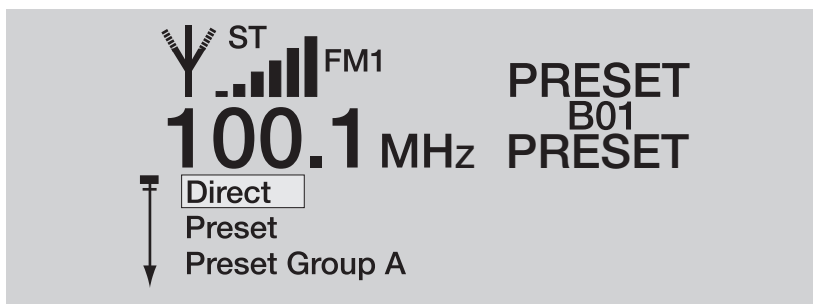
## Stereo/Mono

This menu selection switches the FM signal between stereo and mono. Switching to mono mode can make weak FM signals sound clearer.
The **Stereo** icon will be displayed when in **Stereo** mode and absent when in **Mono** mode.
1) Press the **MODE** button.
2) Highlight **Stereo/Mono** using the **UP** arrow or **DOWN** arrow buttons.
3) Press the **ENTER** button.

ST ← Stereo Icon

FM1

**100.1** MHz

PRESET
C01
PRESET

AM/FM
Preset/Direct
Stereo/Mono
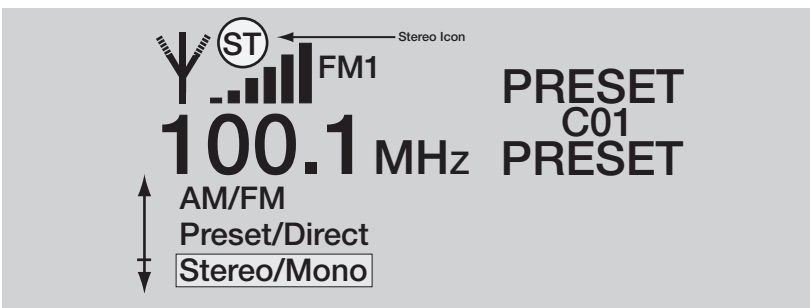
## Saving Presets

Select one of the four **Preset Groups A-D**.
1) Tune to a station that is going to be saved.
2) Press the **MEMORY** button.
3) Highlight **Save Preset** using the **UP** arrow or **DOWN** arrow buttons.
4) Press the **ENTER** button.

ST

FM1

**100.1** MHz

PRESET
A01
PRESET

Save Preset
Delete Preset
EXIT
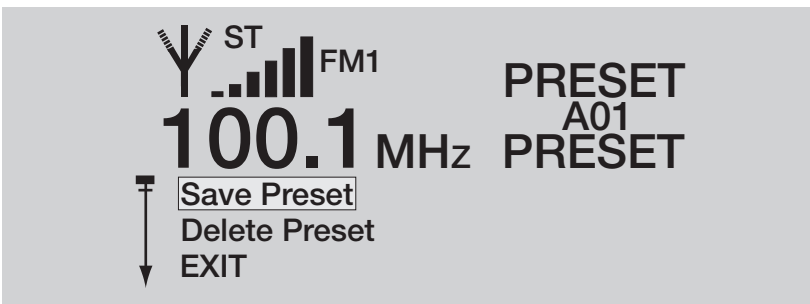
1) Press the **UP/DOWN** arrows to change the first **Preset** digit.
2) Press the **LEFT/RIGHT** arrows select the second **Preset** digit.
3) Press the **UP/DOWN** arrows to change the second **Preset** digit.
4) Press the **Enter** button when done.
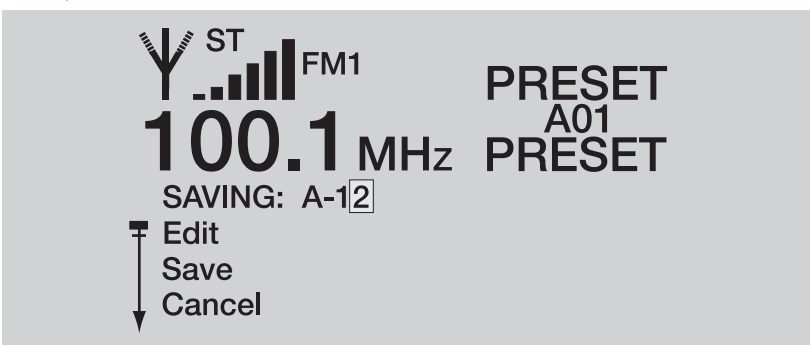
ST

FM1

**100.1** MHz

PRESET
A01
PRESET

SAVING: A-12
Edit
Save
Cancel

1) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
2) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert to the previous setting.
3) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the preset digits.
4) Press the **ENTER** button to commit the selection **Edit**, **Save** or **Cancel**.

## Deleting Presets

1) Select a preset that will be deleted.

2) Press the **MEMORY** button.
3) Highlight **Delete Preset** using the **UP** arrow or **DOWN** arrow buttons.
4) Press the **ENTER** button.

```
   ST
 Y..ıllllFM1        PRESET
                       A01
100.1 MHz  PRESET
    Save Preset
    Delete Preset
    EXIT
```

1) Highlight **Delete** using the **UP** arrow or **DOWN** arrow buttons to delete the preset.
2) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to abort the delete.
3) Press the **ENTER** button to commit either **Delete** or **Cancel**.

```
   ST
 Y..ıllllFM1        PRESET
                       A01
100.1 MHz  PRESET
   DELETING  A-12

    Delete
    Cancel
```
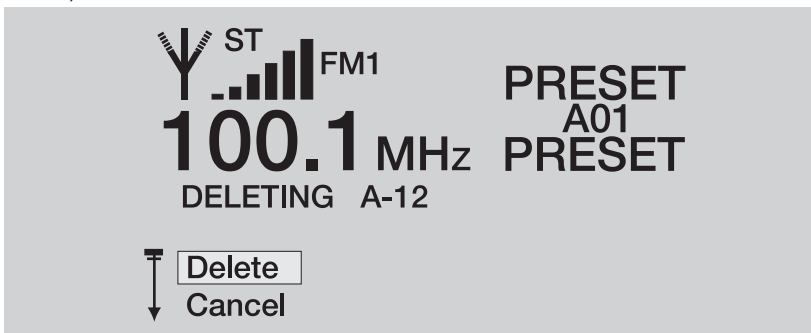
## Override

## Change Custom Text

The DT22 provides the ability to override a station's **Custom Text**.

1) Ensure the **Tuner** is **On**.
2) Select a station whose **Call Sign** you want to change.
3) Press the **ENTER** button.
4) Highlight **Override** using the **UP** arrow or **DOWN** arrow buttons.
5) Press the **ENTER** button.

```
   ST
 Y..ıllllFM1        PRESET
                       D01
100.1 MHz  PRESET
    Override
    Details
    EXIT
```

1) Highlight **Call Sign** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

ST
FM1
**100.1** MHz    PRESET
D01
PRESET
Call Sign
Genre
EXIT

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **Enter** button.

ST
FM1
**100.1** MHz    PRESET
D01
PRESET
CURRENT:      'WKQQ'
Edit
Remove Edits
EXIT
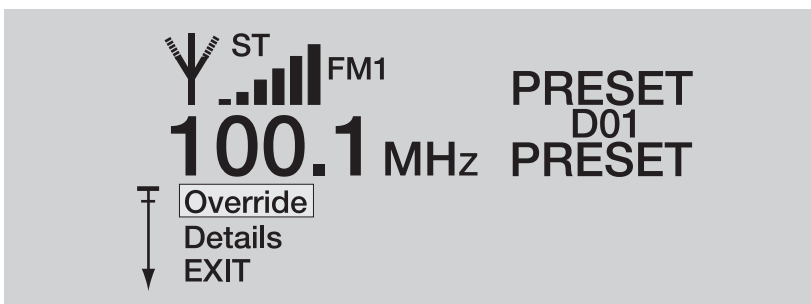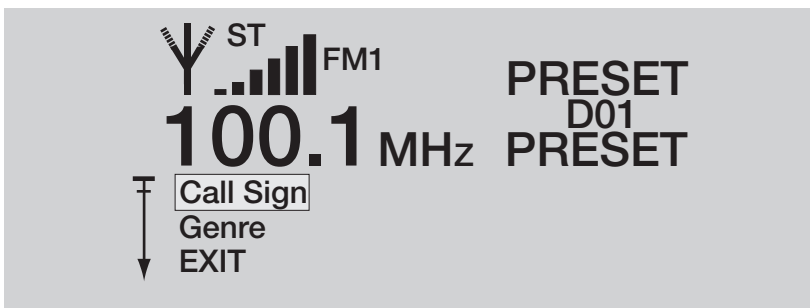
1) Press the **UP/DOWN** arrows to change the characters.
2) Press the **LEFT/RIGHT** arrows select the next character.
3) Press the **Enter** button when done.

ST
FM1
**100.1** MHz    PRESET
D01
PRESET
CURRENT:      'WKQQ'
Edit
Save
Cancel

1) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
2) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
3) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **Call Sign** characters.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

*See next page for example*

```
 ST
Y...ılll FM1        PRESET
                        D01
100.1 MHz    PRESET
CURRENT:      'WKRQ'
┬  Edit
┤  Save
▼  Cancel
```

## Remove Custom Text

1) Ensure the **Tuner** is **On**.
2) Select a station whose **Custom Text** you want to remove.
3) Press the **ENTER** button.
4) Highlight **Override** using the **UP** arrow or **DOWN** arrow buttons.
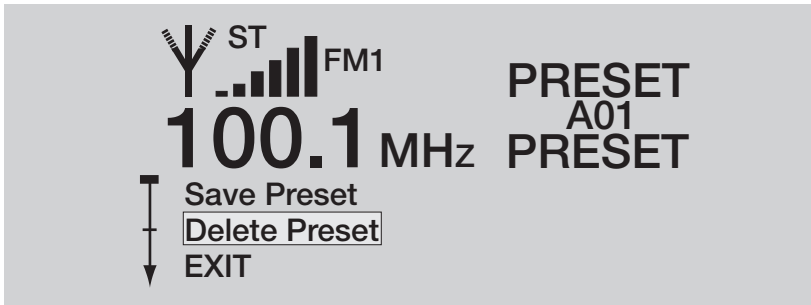5) Press the **ENTER** button.

```
 ST
Y...ılll FM1        PRESET
                        D01
100.1 MHz    PRESET
┬  Override
   Details
▼  EXIT
```

1) Highlight **Call Sign** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
 ST
Y...ılll FM1        PRESET
                        D01
100.1 MHz    PRESET
┬  Call Sign
   Genre
▼  EXIT
```

1) Highlight **Remove Edits** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

*See next page for example*

ST
FM1
**100.1** MHz
CURRENT:    'WLRQ'

PRESET
D01
PRESET
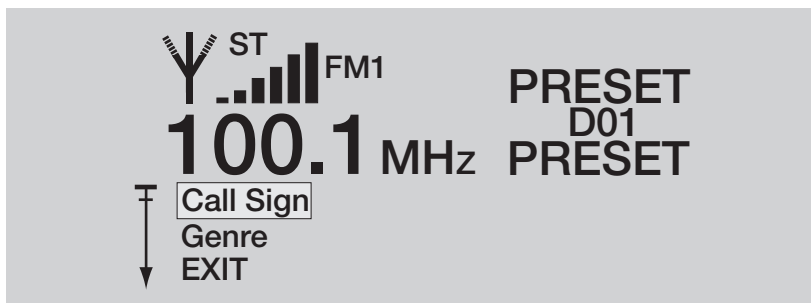
Edit
Remove Edits
EXIT

## Changing Genre

The DT22 provides the ability to change a station's **Genre**.

1) Ensure the **Tuner** is **On**.
2) Select a station whose **Genre** you want to change.
3) Press the **ENTER** button.
4) Highlight **Override** using the **UP** arrow or **DOWN** arrow buttons.
5) Press the **ENTER** button.

ST
FM1
**100.1** MHz

PRESET
D01
PRESET

Override
Details
EXIT

1) Highlight **Genre** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

ST
FM1
**100.1** MHz

PRESET
D01
PRESET

Call Sign
Genre
EXIT

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

*See next page for example*

ST
..ılıl FM1
**100.1** MHz
' Rock

PRESET
D01
PRESET          ,

Edit
Save
Cancel

Press the **UP/DOWN** arrows to change the **Genre**.
Press the **ENTER** button when done.

ST
..ılıl FM1
**100.1** MHz
' Rock

PRESET
D01
PRESET          ,

Edit
Save
Cancel

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **Genre**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4)Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

ST
..ılıl FM1
**100.1** MHz
' Rock

PRESET
D01
PRESET          ,

Edit
Save
Cancel
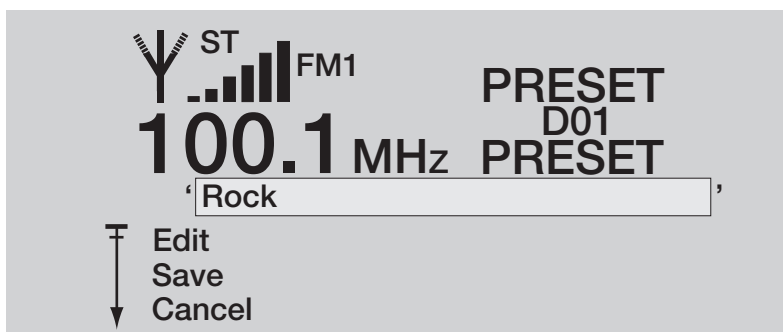
## Removing Genre Override

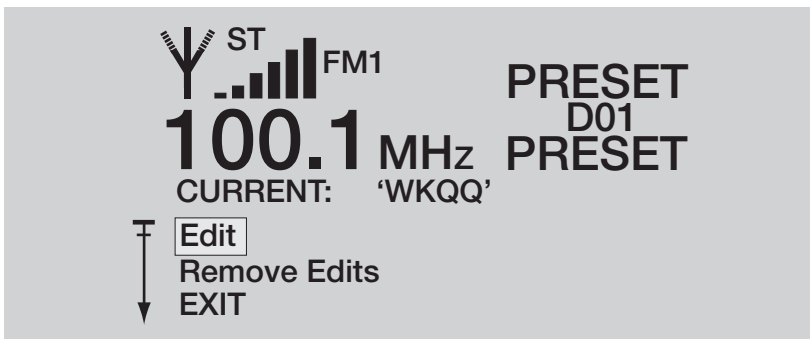The DT22 provides the ability to remove a station's **Genre Override**.

1) Ensure the **Tuner** is **On**.
2) Select a station whose **Genre Override** you want to remove.
3) Press the **ENTER** button.
4) Highlight **Override** using the **UP** arrow or **DOWN** arrow buttons.
5) Press the **ENTER** button.

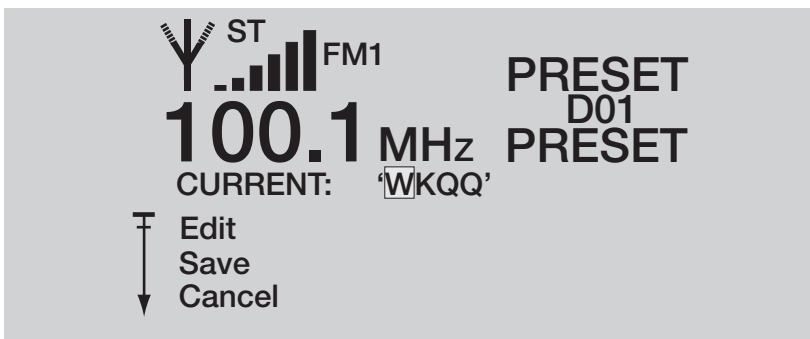*See next page for example*
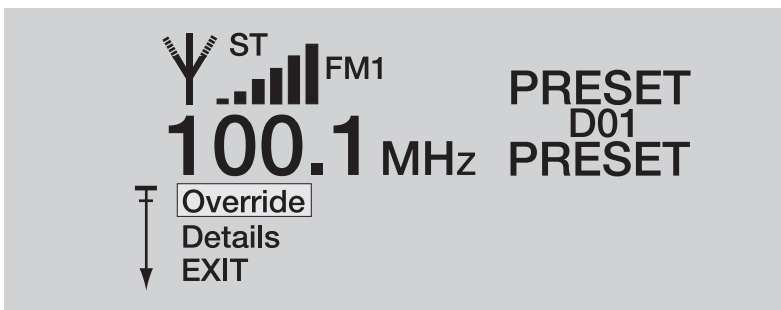
1) Highlight **Genre** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
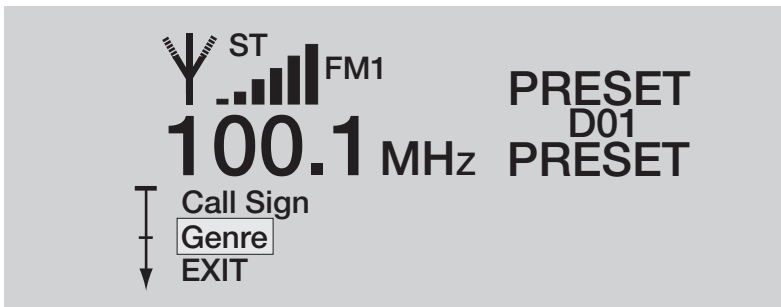


1) Highlight **Remove Edits** using the **UP** arrow or **DOWN** arrow buttons.
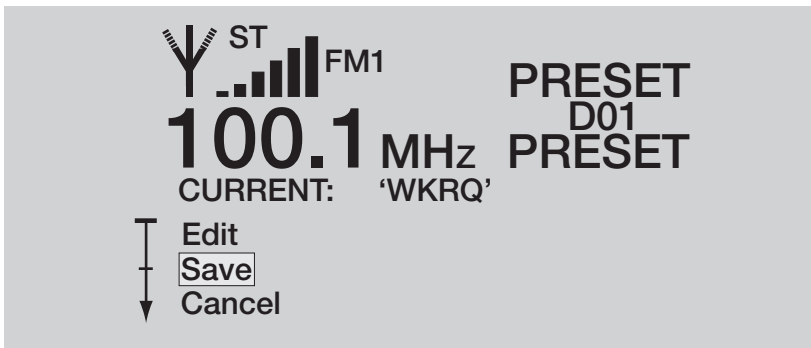2) Press the **ENTER** button.
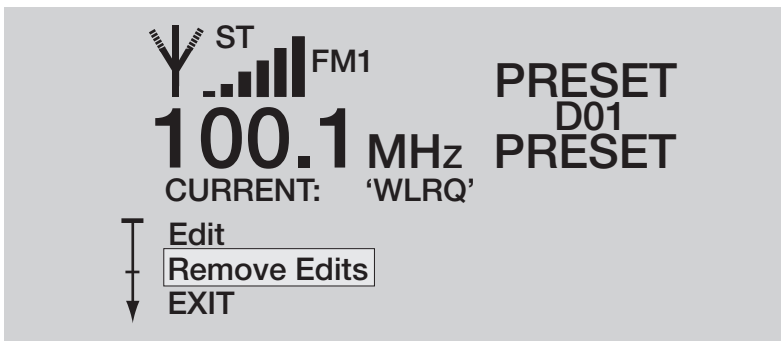


Once the **Enter** button is pressed, the associated **Genre Override** is removed.

## Details

If it is suspected that the DT22 has tuner performance issues, a diagnostic tool is provided to give feedback to the installer in conjunction with a troubleshoot call with ELAN Technical Support.

1) Ensure the **Tuner** is **On**.
2) Select a station whose **Details** you want to see.
3) Press the **ENTER** button.
4) Highlight **Details** using the **UP** arrow or **DOWN** arrow buttons.
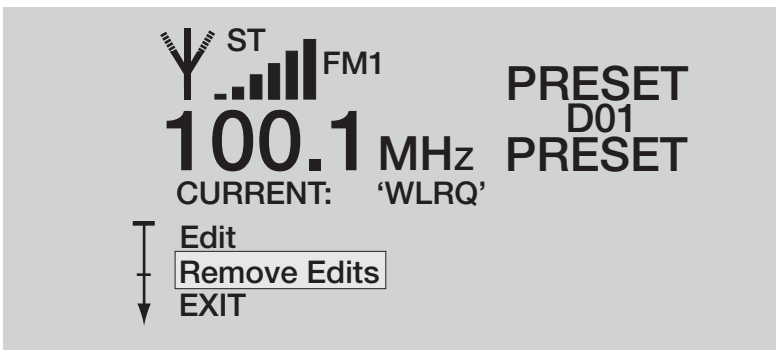5) Press the **ENTER** button.

*See next page for example*

```
  ψ ST
  ψ....ıllıl FM1         PRESET
                            B01
100.1 MHz     PRESET
   ↑
   │ Override
   ┤ Details
   │ EXIT
   ↓
```
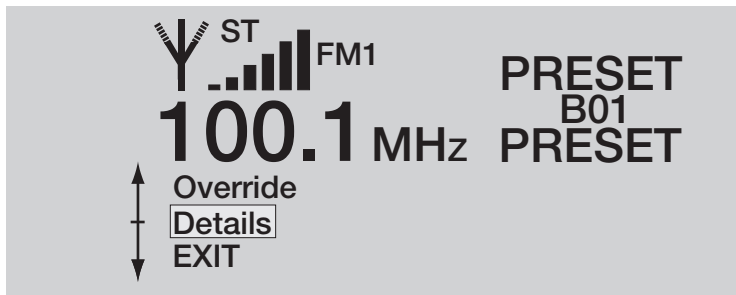
Details are listed for the selected station.

```
FM1        100.1
Valid         : TRUE
Soft  Mute    : off
Pilot         : PRESENT
Blend         : 5%
RSSI          : 32 dBuV
SNR           : 19 dB
F  Offset     : -16 kHz
```

6) To **Exit** press any button.

## System Configuration

If the **Unit** is **On**, turn it **Off**:

    1) **Press** and **Hold** the **TUNER** button on the **Front Panel** to turn the unit **Off**.
      or **Press** the **Off** button on the **Remote**.

    2) Simultaneously **Press** and **Hold** both the **LEFT** and **RIGHT** front panel buttons.

## Unit ID

The **DT22** can provide **Two-Way** feedback status over **VIA!NET** to **Elan Control Panels** without the use of a **SC1**, **SS1** or **SC4**.  The DT22 must be assigned an **Unit ID** when connected to the VIA!NET so it can be identified.  There can only be two DT22s connected to the VIA!NET.
By default the DT22 is shipped configured to Unit ID 1.  For installations with only one DT22, this setting should not be changed.  However, when adding a second DT22 this setting must be changed to 2 on the second unit

**NOTE**: The **VIA!NET** jack on the back of the **DT22** must be used.

1) Highlight **Unit ID** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
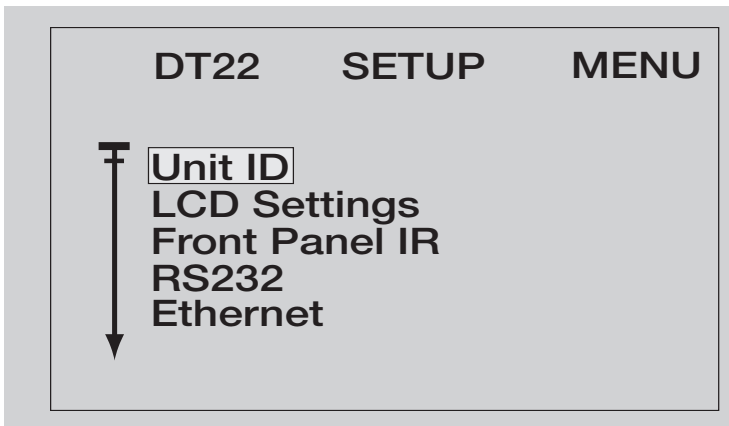
*See next page for example*

```
          DT22     SETUP     MENU

        ┬  Unit ID
        │  LCD Settings
        │  Front Panel IR
        │  RS232
        ▼  Ethernet
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
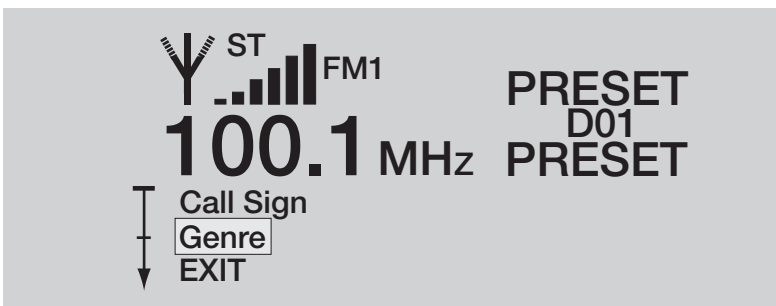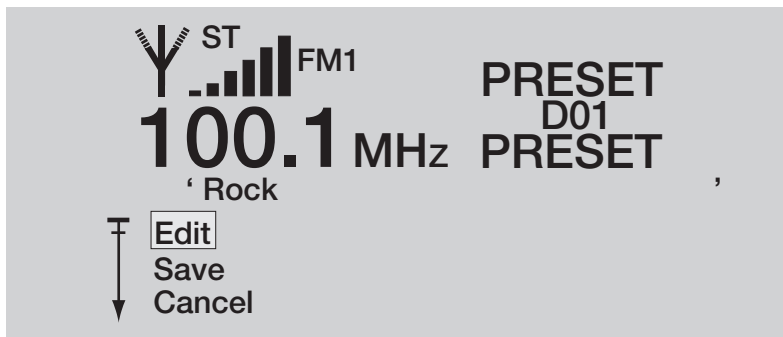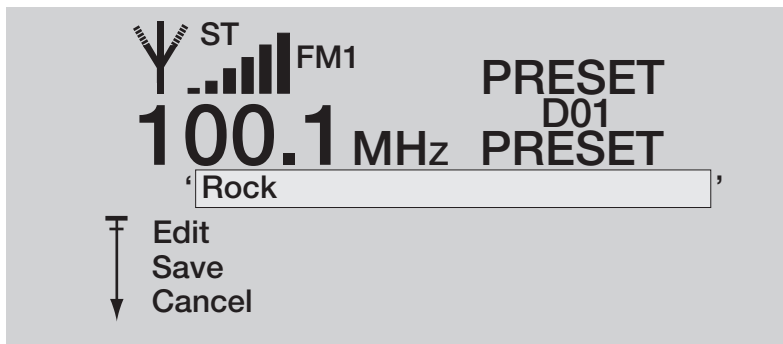2) Press the **ENTER** button.

```
      DT22         SETUP        MENU

                  UNIT ID
                    1

    ┬ Edit
    │ Save
    ▼ Cancel
```
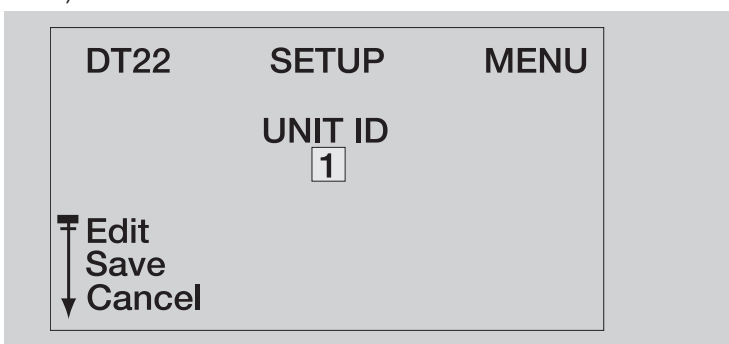
1) Press the **UP/DOWN** arrows to change the **Unit ID**.
2) Press the **Enter** button when done.
3) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **Unit ID**.
4) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
5) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
6) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

```
      DT22         SETUP        MENU

                  UNIT ID
                    1

    ┬ Edit
    │ Save
    ▼ Cancel
```
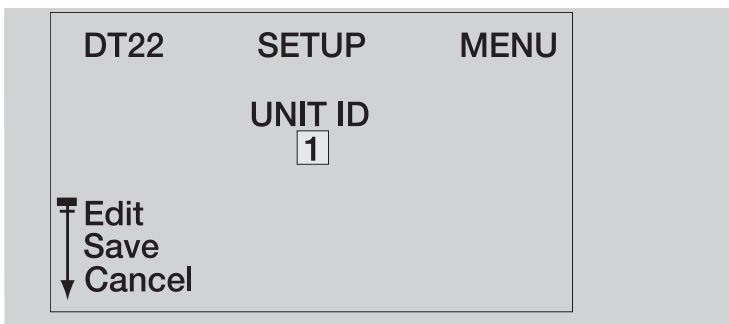
## LCD Settings

LCD settings can be changed to provide optimum readability in various lighting conditions.

LCD Settings submenus:
- LCD Timeout
- LCD Contrast

• LCD Brightness

1) Highlight **LCD Settings** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22      SETUP      MENU
   Unit ID
   LCD Settings
   Front Panel IR
   RS232
   Ethernet
```
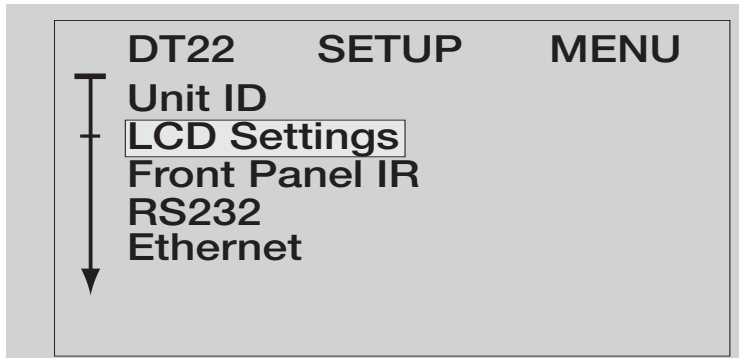
## LCD Timeout

This is the amount of time that the front panel's LCD backlight is active after a Front Panel button press.
**NOTE**:  It is possible to set the **LCD Timeout** value to '**DISABLED**'.  This will prevent the LCD backlight from ever turning off.  It is recommended to greatly decrease the LCD Brightness if this value is used.  Otherwise the lifetime of the LCD backlight will be reduced.

1) Highlight **LCD Timeout** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
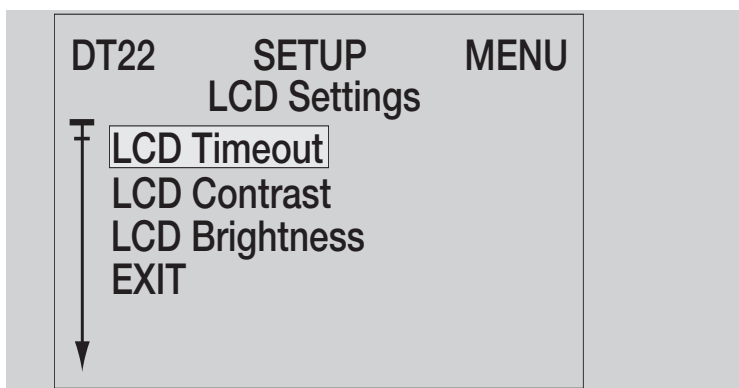
```
DT22      SETUP      MENU
        LCD Settings
   LCD Timeout
   LCD Contrast
   LCD Brightness
   EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22      SETUP      MENU

        LCD TIMEOUT
          1 Minute

 Edit
 Save
 Cancel
```
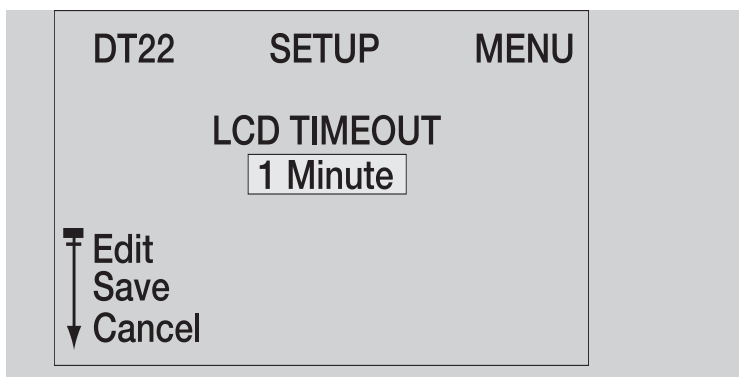
1) Press the **UP/DOWN** arrows to change the **LCD Timeout** time.
2) Press the **ENTER** button when done.                    *See next page for example*

```
   DT22        SETUP        MENU

          LCD TIMEOUT
           | 1 Minute |

   ⊤ Edit
   | Save
   ↓ Cancel
```
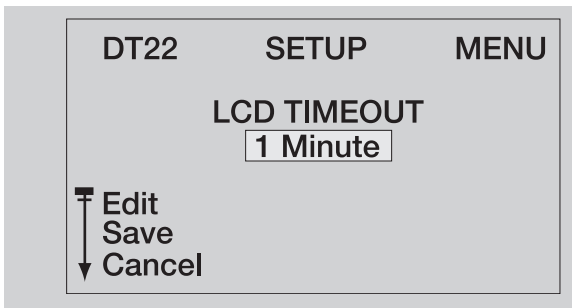
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **LCD Timeout**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## LCD Contrast

1) Highlight **LCD Contrast** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
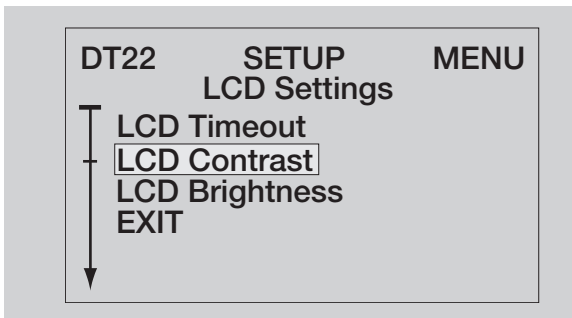
```
   DT22        SETUP        MENU
           LCD Settings
   ⊤   LCD Timeout
   |   | LCD Contrast |
   |   LCD Brightness
   |   EXIT
   |
   ↓
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
   DT22        SETUP        MENU

          LCD CONTRAST
             | +3 |

   ⊤ Edit
   | Save
   ↓ Cancel
```

1) Press the **UP/DOWN** arrows to change the **LCD Contrast**.
2) Press the **ENTER** button when done.

*See next page for example*

```
DT22        SETUP        MENU

            LCD CONTRAST
                +3

  Edit
  Save
  Cancel
```
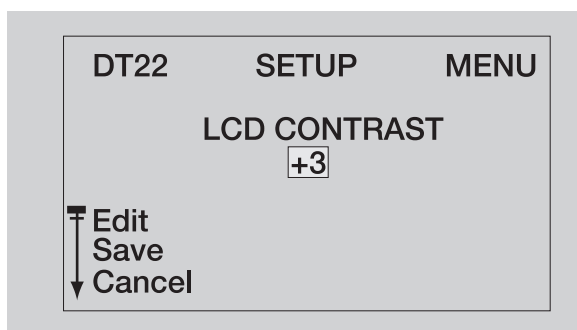
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **LCD Contrast**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## LCD Brightness

1) Highlight **LCD Brightness** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU
            LCD Settings
     LCD Timeout
     LCD Contrast
     LCD Brightness
     EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU

            LCD BRIGHTNESS
                +3

  Edit
  Save
  Cancel
```

1) Press the **UP/DOWN** arrows to change the **LCD Brightness**.
2) Press the **ENTER** button when done.

*See next page for example*

---

```
DT22        SETUP        MENU

          LCD BRIGHTNESS
                +3

  Edit
  Save
  Cancel
```
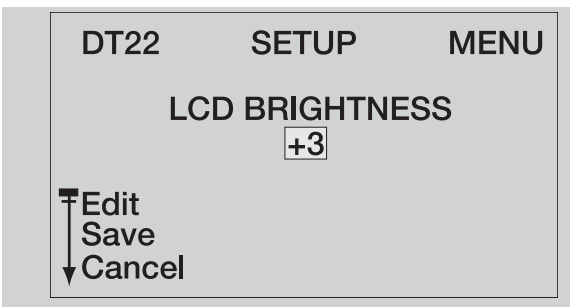
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **LCD Brightness**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## Front Panel IR

Enables or disables the IR receiver located on the front panel.
You may want to disable if you experience IR flooding of the front sensor.

1) Highlight **Front Panel IR** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22     SETUP     MENU

    Unit ID
    LCD Settings
    Front Panel IR
    RS232
    Ethernet
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU

          FRONT PANEL IR
              ENABLED

  Edit
  Save
  Cancel
```
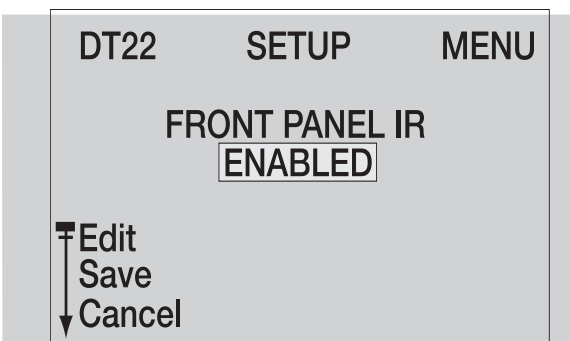
1) Press the **UP/DOWN** arrows to **Enable** or **Disable Front Panel IR**.
2) Press the **ENTER** button when done.
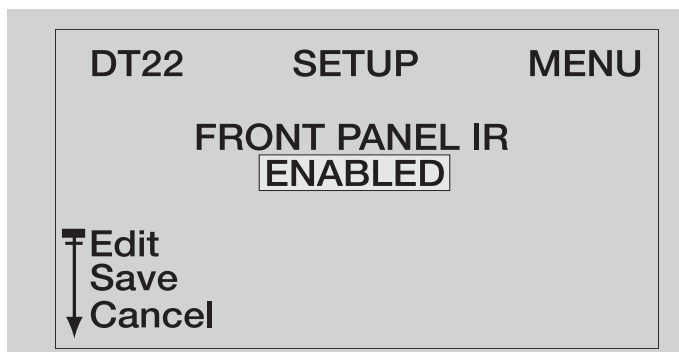
*See next page for example*

```
 DT22        SETUP        MENU

        FRONT PANEL IR
          ENABLED

 ⊤Edit
  Save
 ↓Cancel
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to **ENABLE** or **DISABLE Front Panel IR**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## RS232

RS232 Menu submenus:

- Baud Rate
- Unsolicited Feedback

1) Highlight **RS232** using the **UP** arrow or **DOWN** arrow buttons.

2) Press the **ENTER** button.

```
 DT22      SETUP      MENU

   ⊤ Unit ID
     LCD Settings
     Front Panel IR
   ⊤ RS232
     Ethernet
   ↓
```
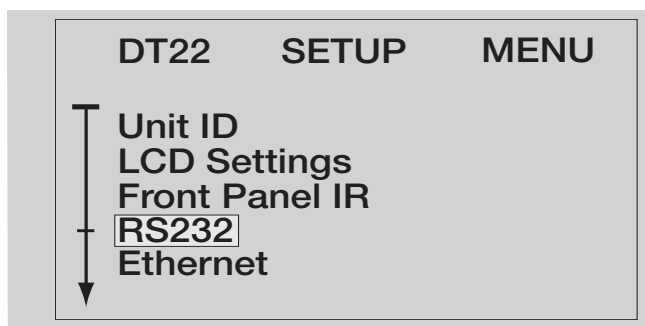
## Baud Rate

1) Highlight **Baud Rate** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
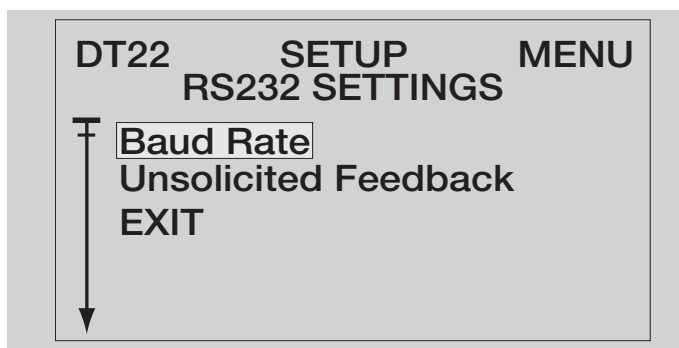
```
 DT22        SETUP        MENU
       RS232 SETTINGS
   ⊤ Baud Rate
     Unsolicited Feedback
     EXIT
   ↓
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
 DT22        SETUP        MENU

         RS232 BAUD RATE
              115200

 Edit
 Save
 Cancel
```
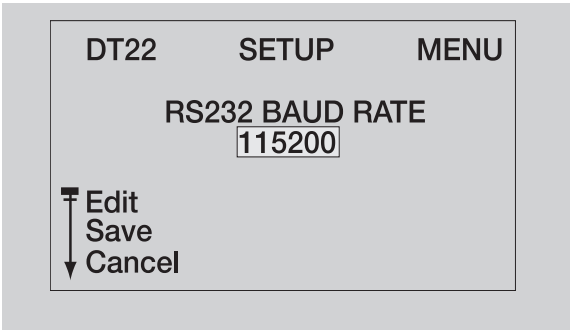
1) Press the **UP/DOWN** arrows to change the **Baud Rate**.
2) Press the **ENTER** button when done.

```
 DT22        SETUP        MENU

         RS232 BAUD RATE
              115200

 Edit
 Save
 Cancel
```
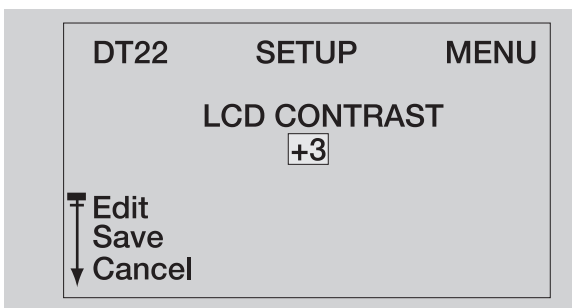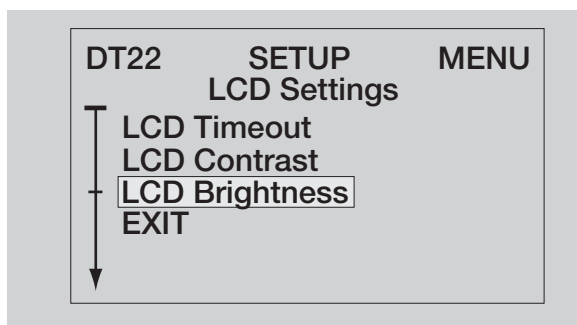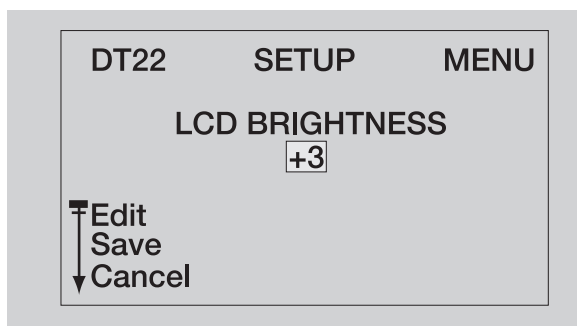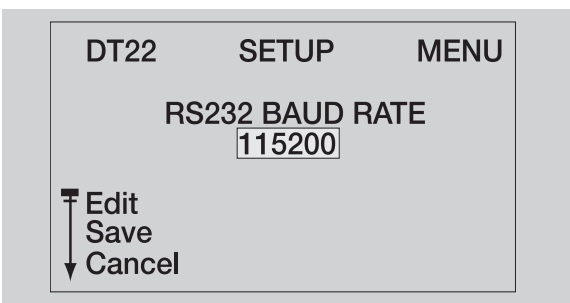
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **Baud Rate**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit, Save** or **Cancel**.

## Unsolicited Feedback

The DT22 can automatically send its status whenever its state changes.  This is enabled by default.

1) Highlight **Unsolicited Feedback** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
 DT22        SETUP        MENU
        RS232 SETTINGS

   Baud Rate
   Unsolicited Feedback
   EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

*See next page for example*

```
DT22        SETUP        MENU

    UNSOLICITED FEEDBACK
          ENABLED

  Edit
  Save
  Cancel
```

1) Press the **UP/DOWN** arrows to **Enable** or **Disable Unsolicited Feedback**.
2) Press the **ENTER** button when done.
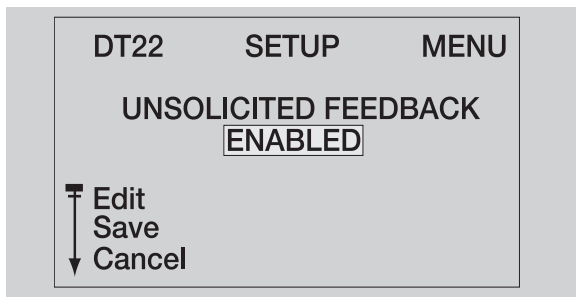
```
DT22        SETUP        MENU

    UNSOLICITED FEEDBACK
          ENABLED

  Edit
  Save
  Cancel
```

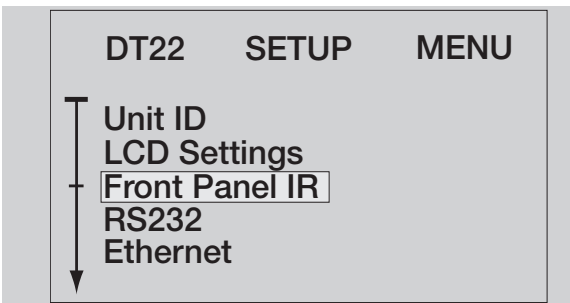1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to **ENABLE** or **DISABLE Unsolicited Feedback**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## Ethernet

Ethernet Menu submenus:

* Configuration Type
* Show Current

To enter the **Ethernet** settings menu use the **DOWN** arrow to highlight **Ethernet** and press the **ENTER** button.

```
DT22        SETUP        MENU

  LCD Settings
  Front Panel
  RS232
  Ethernet
  ZNet
```
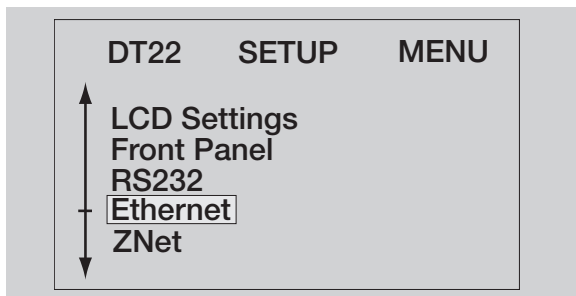
## Configuration Type

The **Configuration Type** settings menu allows the DT22 to be set to **DHCP** or **Static** IP Address.

1) Highlight **Configuration Type** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
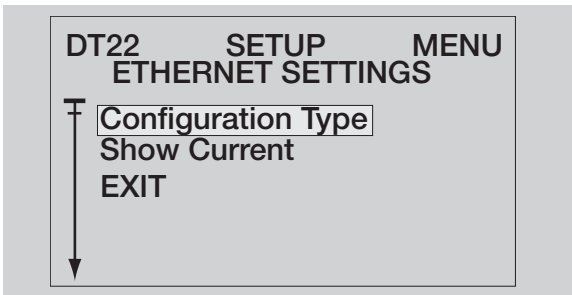
*See next page for example*

```
DT22        SETUP        MENU
     ETHERNET SETTINGS
   ⊤ Configuration Type
     Show Current
     EXIT
   ↓
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU

   ETHERNET CONFIGURATION
              DHCP

 ⊤ Edit
 | Save
 ↓ Cancel
```
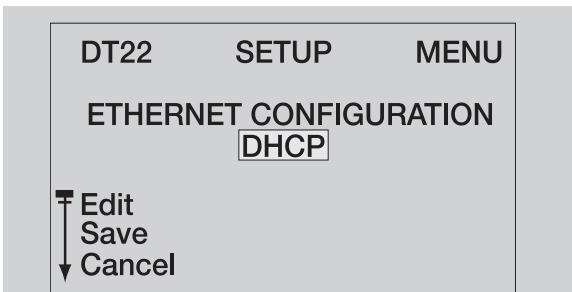
1) Press the **UP/DOWN** arrows to select **DHCP** or **Static**.
2) Press the **ENTER** button when done.

```
DT22        SETUP        MENU

   ETHERNET CONFIGURATION
              DHCP

 ⊤ Edit
 | Save
 ↓ Cancel
```
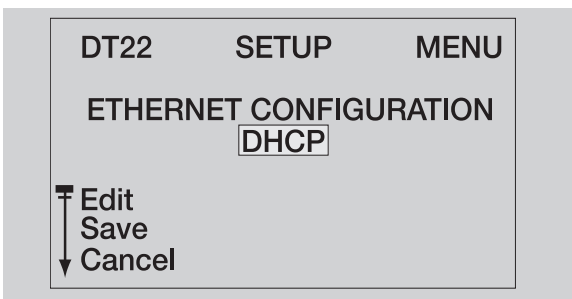
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change **Configuration Type**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## Static Parameters

Static Parameters Menu submenus:

•   IP Address
•   Netmask
•   Gateway

When **STATIC** is selected as a configuration type a hidden menu selection called **Static Parameters** appears.

1) Highlight **Static Parameters** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU
      ETHERNET SETTINGS
      Configuration Type
      Static Parameters
      Show Current
      EXIT
```

## STATIC IP ADDRESS

1) Highlight **IP Address** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
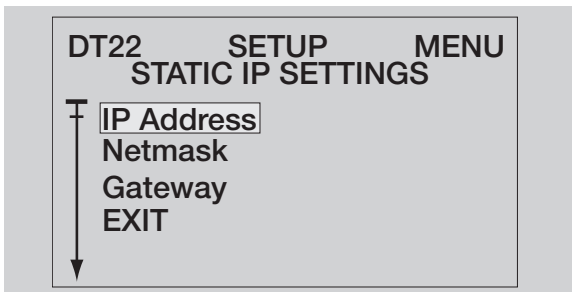
```
DT22        SETUP        MENU
      STATIC IP SETTINGS
      IP Address
      Netmask
      Gateway
      EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU

      STATIC IP ADDR
      192. 168.   1.   50

    Edit
    Save
    Cancel
```
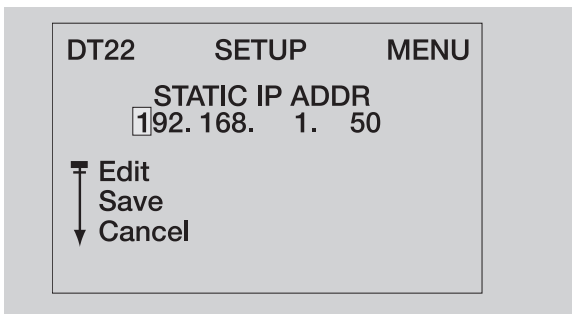
1) Press the **UP/DOWN** arrows to change the **IP Address** digit.
2) Press the **LEFT/RIGHT** arrows select the next **IP Address** digit.
3) Press the **ENTER** button when done.

```
DT22        SETUP        MENU

      STATIC IP ADDR
      192. 168.   1.   50

    Edit
    Save
    Cancel
```
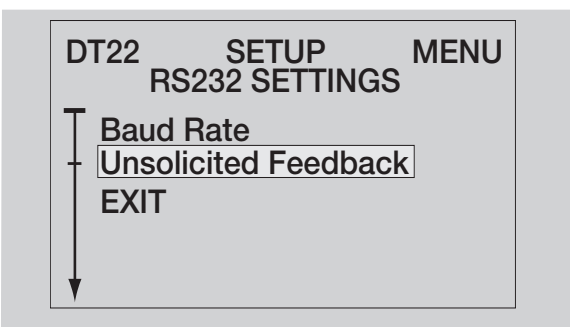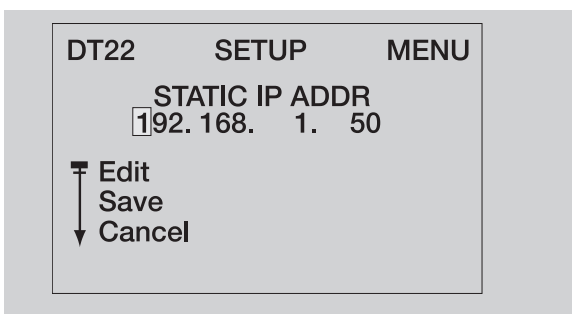
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change **IP Address**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
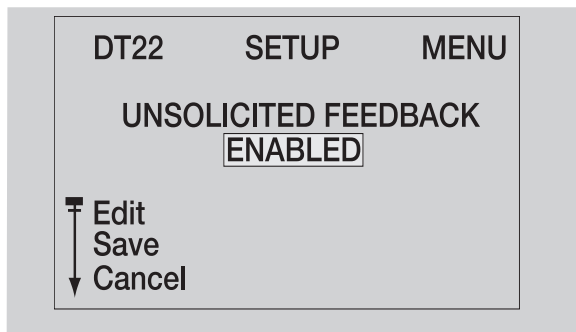4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## Static Netmask

1) Highlight **Netmask** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
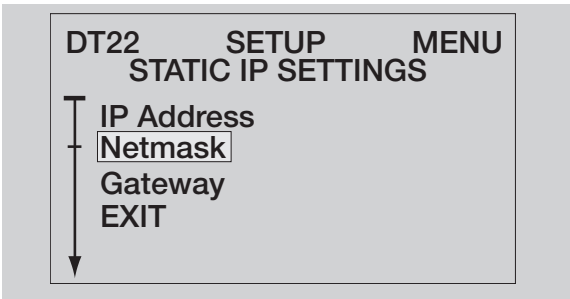
```
DT22        SETUP        MENU
        STATIC IP SETTINGS
     IP Address
     Netmask
     Gateway
     EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU

        STATIC NETMASK
        255. 255. 255.    0

   Edit
   Save
   Cancel
```

1) Press the **UP/DOWN** arrows to change the first **Static Netmask** digit.
2) Press the **LEFT/RIGHT** arrows select the next **Static Netmask** digit.
3) Press the **ENTER** button when done.

```
DT22        SETUP        MENU

        STATIC NETMASK
        255. 255. 255.    0

   Edit
   Save
   Cancel
```
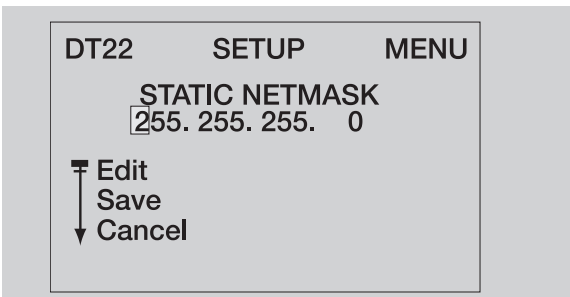
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change **Static Netmask**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Save** or **Cancel**.

## Static IP Gateway

1) Highlight **GATEWAY** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22         SETUP         MENU
       STATIC IP SETTINGS
    IP Address
    Netmask
    Gateway
    EXIT
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22         SETUP         MENU
       STATIC GATEWAY
       192. 168.  1.    1
    Edit
    Save
    Cancel
```

1) Press the **UP/DOWN** arrows to change the first **Static Gateway** digit.
2) Press the **LEFT/RIGHT** arrows select the next **Static Gateway** digit.
3) Press the **ENTER** button when done.

```
DT22         SETUP         MENU
       STATIC GATEWAY
       192. 168.  1.    1
    Edit
    Save
    Cancel
```
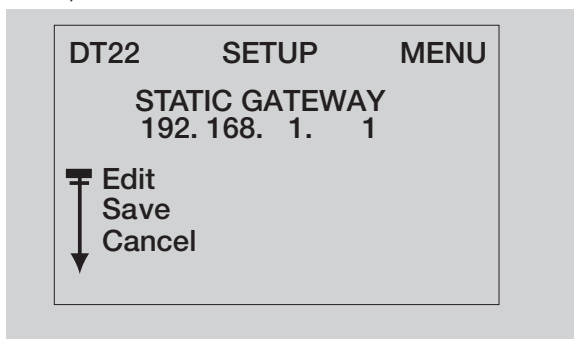
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change **IP Gateway**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.
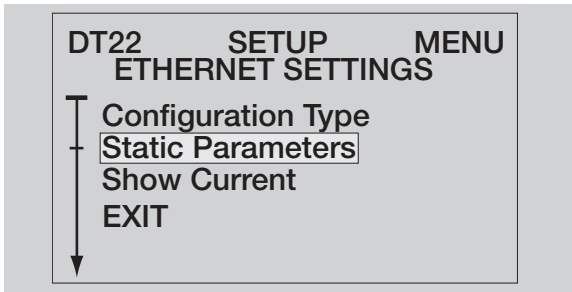
## Show Current

Show Current displays the currently assigned **IP Address, Mask, and Gateway**.

1) Highlight **Show Current** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22        SETUP        MENU
     ETHERNET SETTINGS

 Configuration Type
 Show Current
 EXIT
```
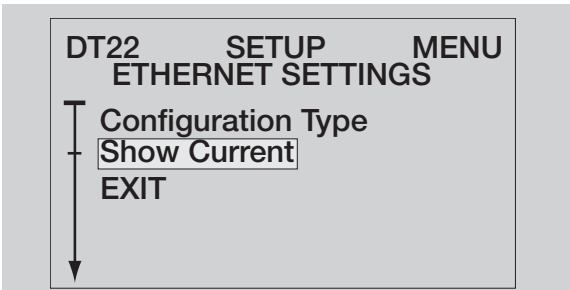
1) Press the **ENTER** button when done.
**NOTE**: The values shown will be different for your network.  Also, these numbers will not be correct until after a reboot if the "Configuration Type" or "Static Parameters" values have been changed.

```
DT22         SETUP        MENU
           CURRENT IP

    IP   169.254. 19.174
  MASK   255.255.  0.  0
    GW   255.255.  0.  0

 EXIT
```
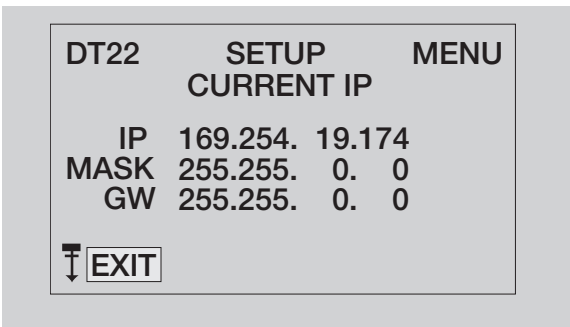
## ZNet Bridge

The S66A, S128P, and Z630 ELAN multi-room controllers are not VIANet enabled devices.  Instead these control-lers use an older communication standard called ZNet.  An Elan system containing at least one System SS1 or System SC1 will automatically convert the older ZNet feedback into VIANet feedback.  However, in systems without a System SS1 or System SC1, the DT22 can provide this functionality, but must be manually enabled using this procedure.

1) Highlight  **ZNet** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
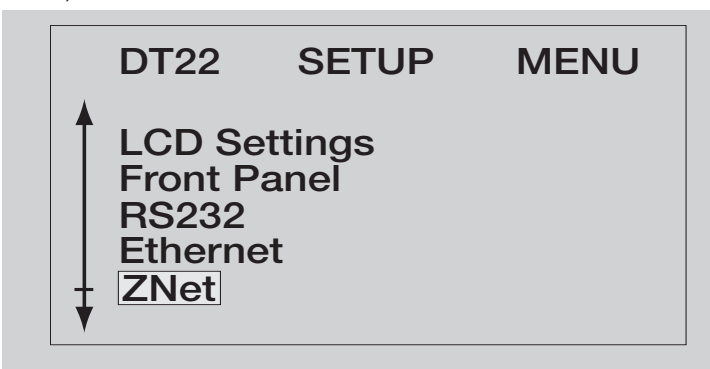
```
  DT22     SETUP     MENU

  LCD Settings
  Front Panel
  RS232
  Ethernet
  ZNet
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

*See next page for example*

```
DT22        SETUP        MENU

          ZNET BRIDGE
           DISABLED

  ⊤Edit
   |Save
   ↓Cancel
```
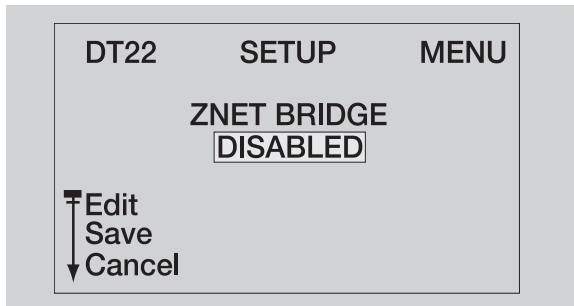
1) Press the **UP/DOWN** arrows to select the type of **ZNet Bridge**.
2) Press the **ENTER** button when done.

```
DT22        SETUP        MENU

          ZNET BRIDGE
           DISABLED

  ⊤Edit
   |Save
   ↓Cancel
```
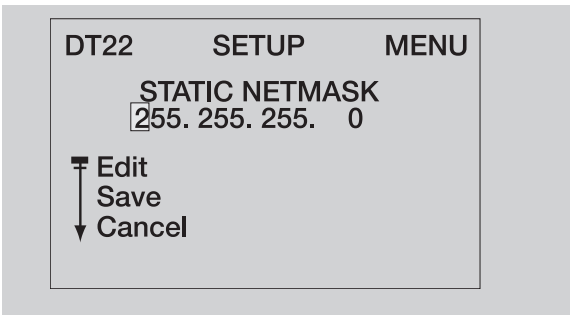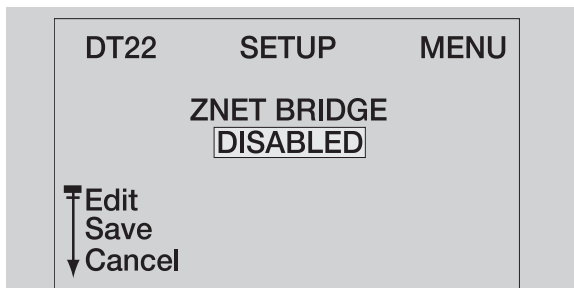
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **ZNET BRIDGE**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit**, **Save** or **Cancel**.

## Region

The DT22 can operate in the **United States/North America or Europe/Asia**.

1) Highlight  **Region** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.
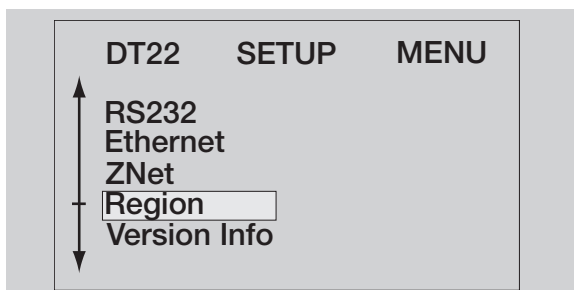
```
DT22      SETUP      MENU

↑  RS232
|  Ethernet
|  ZNet
-  Region
|  Version Info
↓
```

1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

*See next page for example*

```
DT22        SETUP        MENU

                 REGION
               Europe/Asia
    Edit
     Save
    Cancel
```
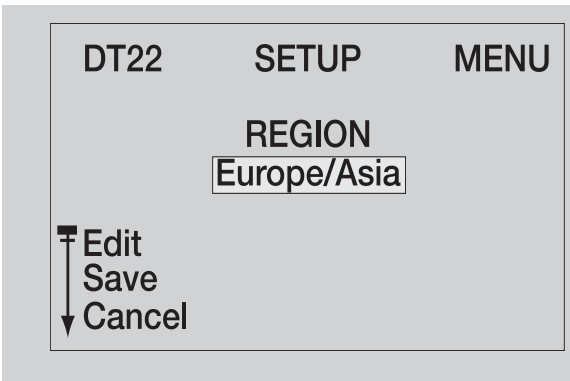
1) Press the **UP/DOWN** arrows to select the type of **Region**.
2) Press the **ENTER** button when done.

```
DT22        SETUP        MENU

                 REGION
               Europe/Asia
    Edit
     Save
    Cancel
```
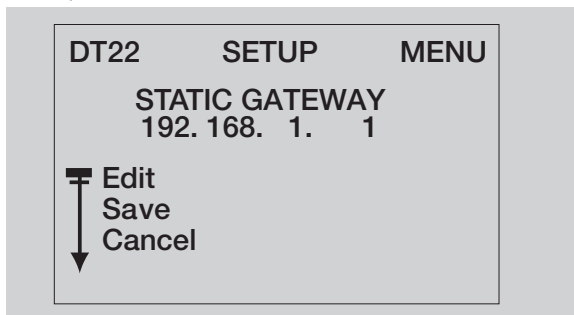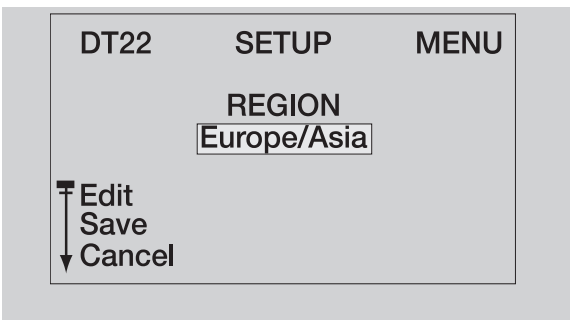
1) Highlight **Edit** using the **UP** arrow or **DOWN** arrow buttons to change the **Region**.
2) Highlight **Save** using the **UP** arrow or **DOWN** arrow buttons to save the change.
3) Highlight **Cancel** using the **UP** arrow or **DOWN** arrow buttons to revert the previous setting.
4) Press the **ENTER** button to commit either **Edit, Save** or **Cancel**.

## Version Info

The **Version Info** screen shows what version of firmware the DT22 is currently running.

1) Highlight **Version Info** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
DT22       SETUP       MENU

    RS232
    Ethernet
    ZNet
    Region
    Version Info
```

1) Press the **Enter** button when done.

```
DT22      SETUP      MENU
     CURRENT VERSION

  CODE  1.0.3.1
  BOOT  1.0.0.1


⇳ EXIT
```
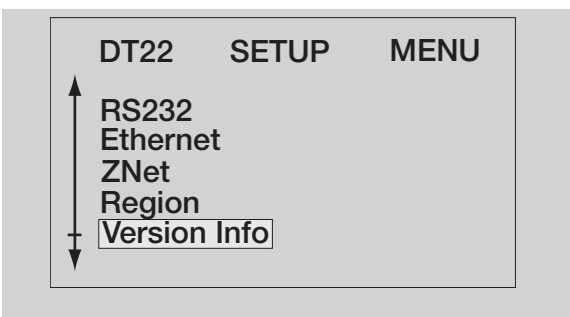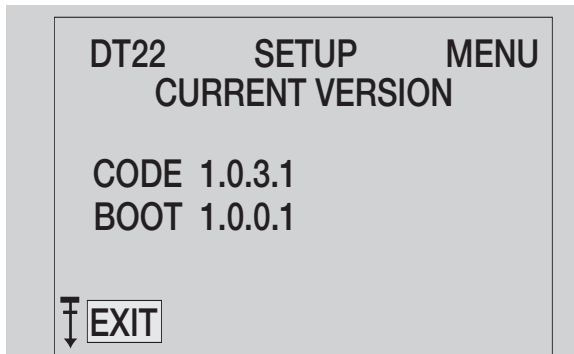
## Restore Defaults

This resets all setup menu options back to the original factory values.  This also clears all saved presets and over-rides.  This will not change the current firmware version.

1) Highlight  **Restore Defaults** using the **UP** arrow or **DOWN** arrow buttons.
2) Press the **ENTER** button.

```
  DT22     SETUP     MENU
  Ethernet
  ZNet
  Region
  Version Info
  Restore Defaults
```
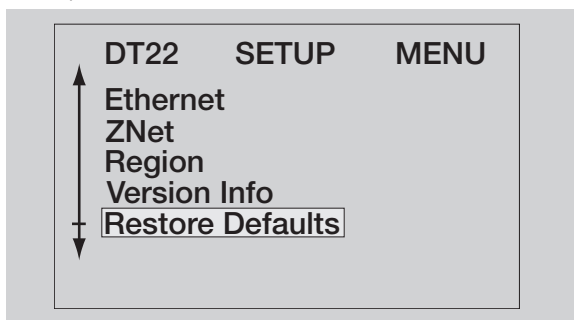
1) Press the **UP/DOWN** arrows to select the type of **Yes/Reboot** or **No/Cancel**.
2) Press the **ENTER** button when done.

```
  DT22      SETUP      MENU
     RESTORE FACTORY
        DEFAULTS?

⇳ Yes/Reboot
  No/Cancel
```
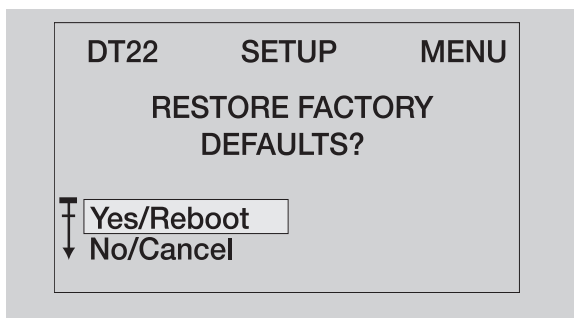
# Remote Control Operation
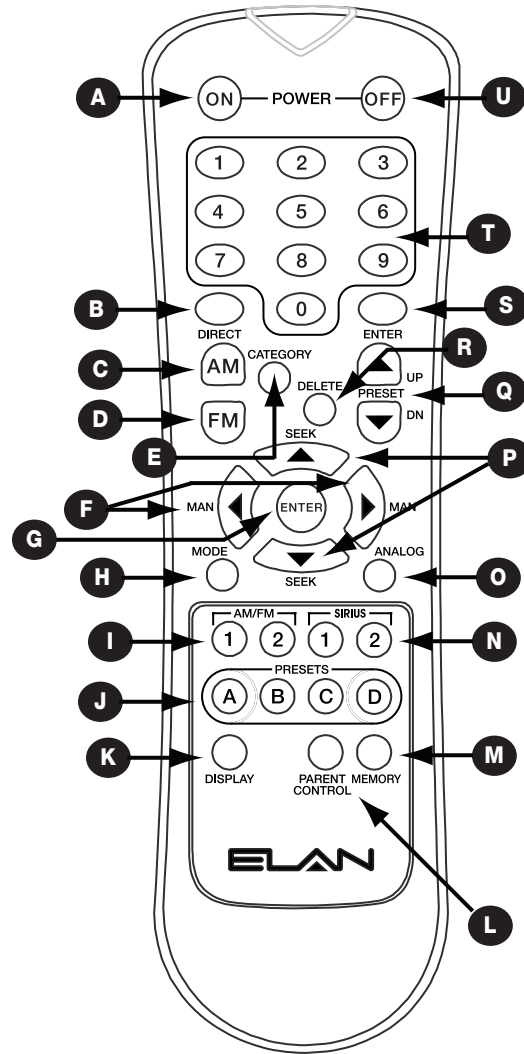


*DT22 IR Remote Control*

**A.  POWER ON**

Turns the DT22 ON.

**B.  DIRECT Button**

Places the DT22 into Direct mode, allowing the user to use the 0-9 numeric buttons to directly enter a channel's frequency.

**C.  AM Button**

Selects AM on the selected tuner.

**D.  FM Button**

Selects FM on the selected tuner.

**E.  Category Button**

Selects Category mode on SIRIUS Tuner 1 or 2 (if equipped).

**F.  Manual Up/Down Tuning ButtonsEnter Button**

Increments/Decrements the tuner selection manually.

## G.  Enter Button

Verify or confirm an intended operation or function.  Also toggles SIRIUS display between Artist, Title, Composer, and channel name/category.

## H.  Mode Button

Toggles Stereo ON/OFF for FM stations.

## I.   AM-FM 1-2 (Tuner 1-2)

Selects AM/FM Tuner #1 or #2 on the unit's front panel.

## J.  Preset Buttons A-D

Pressing and releasing a preset button (A-D) will select the preset group indicated on the button and place the tuner into preset tune mode.  The user can then tune to a specific preset in that group by pressing any two of the numeric buttons such as 01 or 99.

## K.  Display Button

Activates the front panel LCD and display the metadata for the channel that is currently active.

## L.  Parent Control Button

No function for this model.

## M.  Memory Button

Saves the current station selection to a preset.  After pressing this button, the user can either press two numeric buttons to save to a specific preset, or press the enter button to save to the next available preset slot.

## N.  SIRIUS 1-2

Selects SIRIUS Tuner #1 or #2 (if equipped).

## O.  Analog Button

No function for this model.

## P.  Seek Up/Down Buttons

Increment/Decrement the tuner selection automatically to the next channel.

## Q.  Preset Up/Down Buttons

Increment/Decrement the Preset station selection to the next programmed Preset channel in memory.

## R.  Delete Button

Deletes a selected channel Preset from memory and is confirmed by pressing the Enter button.

## S.  Enter Button

Verify or confirm an intended operation or function.

## T.  0-9 Numeric Buttons

These buttons are used for direct station access and recalling presets.

## U.  OFF Button

Turns the DT22 OFF.
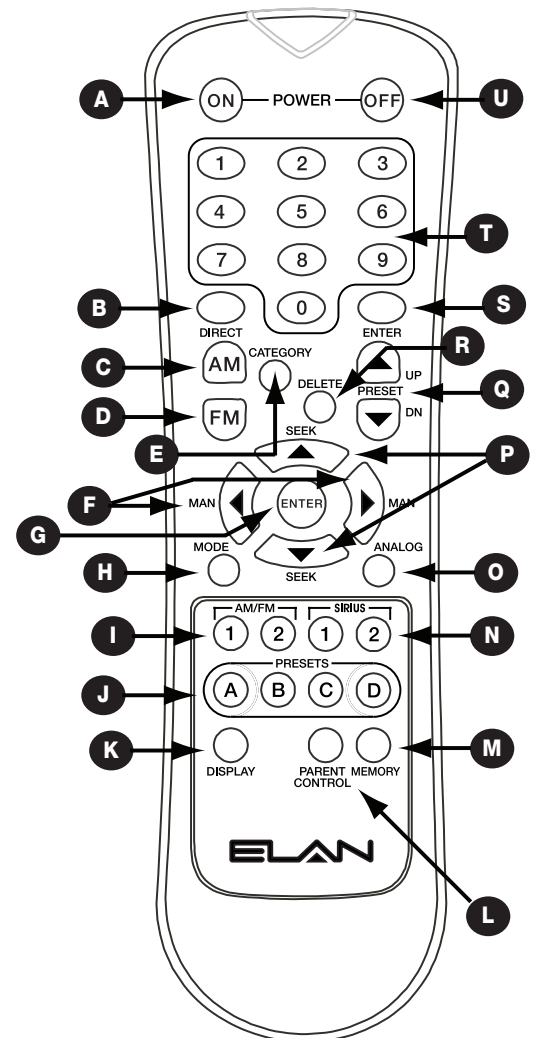
*DT22 IR Remote Control*

---

# Troubleshooting

## *Audio Troubleshooting Procedures*

| Symptom | Possible Cause/s | What an authorized installer can do |
|---|---|---|
| No power up. | 1. No AC power. | 1. a. Check Power switch.<br><br>   b. Connect Power Cord to AC outlet.<br><br>   c. Check AC circuit breaker. |
|  | 2. Blown fuse. | 2. Replace fuse w/ T2AL type fuse, 2A only. |
| No audio. | 1. See No power up Symptom. | 1. Press Play, tune station, turn on etc. |
|  | 2. Source on Receiver not selected. | 2. Select Source on Receiver. |
|  | 3. Source selected in wrong zone. IR zone controller (keypad etc.) connected to wrong zone. | 3 a. Consult front panel display to determine Zone selection.<br><br>   b. Connect IR keypad or touch panel to correct zone. |
|  | 4. Output's volume turned all the way down. | 4. Increase volume. |
|  | 5. Speakers or volume controls miswired or defective. | 5. Test known good speaker/volume control at amplifier. |
|  | 6. Zone audio output(s) connected to wrong amplifier input(s). | 6. Verify connections. |

| Symptom | Possible Cause/s | What an authorized installer can do |
|---|---|---|
| No audio present in any zone. | 1. See above.<br><br>2. External amplifier powered down.<br><br>3. External amp in protect mode. | Perform steps above.<br><br>Turn amp ON. Ensure that any remote turn on cables are connected at both ends.<br><br>Find cause of amp's protection mode and correct. Miswired speakers or volume controls most likely cause. |

## *IR Control Troubleshooting Procedures*

| Symptom | Possible Cause/s | What an authorized installer can do |
|---|---|---|
| No source control from IR controller (keypad, hand-held remote, etc.). IR LED does NOT flash when button pressed. | 1. IR controller not programmed.<br><br>2. IR signal path wiring bad. | Program IR controller.<br><br>Verify IR signal path wiring. Check keypads, IR sensors, IR distribution blocks, V8 IR Input jack, IR emitters, etc. |
| Source not selected from IR controller (keypad, hand-held remote, etc.). IR LED DOES flash when button pressed. | Incorrect IR commands programmed. | Verify/correct IR programming. |
| Intermittant or no source or zone control from IR controller (keypad, hand-held remote, etc.). IR LED flickers or is lit constantly. | IR flooding. | Check IR receivers for ambient light or plasma TV flooding. |

## RS232 Control Troubleshooting Procedures

| Symptom | Possible Cause/s | What an authorized installer can do |
|---------|------------------|-------------------------------------|
| No source or zone selected from RS-232 controller. | 1. RS-232 controller incorrectly programmed. | Verify/correct programming. |
| | 2. RS-232 signal path wiring bad. | Verify RS-232 wiring. Check wire integrity an pin-out configuration. |
| Incorrect source and/or zone selected. | The system source select RS-232 commands were incorrectly programmed. | Verify/correct programming. |
| Acknowledgement ACK,xxx<CR> is not received within 200ms | 1. The command was formatted incorrectly. | Verify/correct programming. |
| | 2. An error has occurred in the DT22. | Turn unit OFF, then back ON. |
| | 3. Serial cable not connected or defective. | Connect or replace serial cable. |
| | 4. DT22 does not have power. | Connect power, check breakers. |

## VIA!NET Control Troubleshooting Procedures

| Symptom | Possible Cause/s | What an authorized installer can do |
|---------|------------------|-------------------------------------|
| No source or zone selected from VIA!NET controller (VIA! Touch Panel, etc.). | 1. VIA!NET controller not programmed. | Program VIA!NET controller. |
| | 2. VIA!NET signal path wiring bad. | Verify VIA!NET wiring. |
| Incorrect source and/or zone selected. | Incorrect system commands programmed. | Verify/correct programming. |

## *ETHERNET Control Troubleshooting Procedures*

| Symptom | Possible Cause/s | What an authorized installer can do |
|---|---|---|
| Not able to download firmware update. | 1. Ethernet I.P. address incorrect. | Verify Ethernet I.P. address. |
| | 2. Router or DSL Modem not connected or powered up. | Verify connectivity and Power status. |
| | 3. Ethernet signal path wiring bad. | Verify Ethernet wiring. |

## *Signal Reception Control Troubleshooting Procedures*

| Symptom | Possible Cause/s | What an authorized installer can do |
|---|---|---|
| No signal reception, or poor signal reception | 1. Antenna not plugged in to DT22. | Verify antenna connection. |
| | 2. Antenna signal path wiring bad. | Verify antenna cable wiring |

## Technical Support

If, after carefully following the steps in the **Troubleshooting** section, you are unable to resolve issues with the installation or operation of the DT22, please call ELAN Technical Support at 1-800-622-ELAN (3526).

# Appendix A Specifications

Table A-1 shows the equipment specifications for the DT22 Multi-Room Integrated Controller.

## *DT22 Specifications*

| Item | Description |
|---|---|
| Control Ports | |
|    IR In/Out | (2) 3.5mm jacks |
|    VIA!Net In/Out | (2) RJ-45 |
|    RS-232 | (1) Female DB9 (DCE) |
|    Ethernet | (1) RJ-45 T568A |
|    Analog Audio Outputs | (4 pr.) RCA Stereo |
|    Digital Audio Outputs | (2) Optical TOS Link |
|    Antenna Inputs | (1) Coax FM Antenna |
| | (1) AM Antenna Push Terminal |
|    SIRIUS Ready Connectors | (2) 8 Pin DIN |
| Audio: FM | |
|    Tuning Frequencies | 76 ~ 108MHz |
|    Frequency Response | 300Hz to 15kHz, +0/-3dB |
|    Signal-to-Noise | 63dB (Mono) / 58dB (Stereo) |
| Audio: AM | |
|    Tuning Frequencies | 520 ~ 1710kHz |
|    Signal-to-Noise | 56dB |
| Power Requirements | 120VAC, 35W / 240VAC 35W |
| | Fuse Value = 2A |
| Dimensions w/Feet (2U w/o Feet) | 17 W x 3 1/2 H x 14 D (in.) |
| | 432 W x 89 H x 356 D (mm) |
| Weight | 13.6 lbs/6 kgs |

# Appendix B: Serial Protocol

## Port Configuration

8 data bit, no parity, 1 stop bit

Baud Rates:

- 115200: Default, lower speeds will cause increased lag in unsolicited notifications.

- 57600

- 38400

- 19200

- 9600

## Messages

Incoming messages must be terminated with a carriage return (13 in decimal or 0x0d in hex.)
Carriage returns will be represented as <cr> in this document.
Incoming linefeeds, 10 in decimal or 0x0D in hex, will be ignored.
All responses and unsolicited notifications will be terminated by carriage return only.

## Unsolicited Feedback notifications

This is feedback that the DT22 automatically transmits whenever its state changes.
The **<COMMAND>** section will state if a response will be sent unsolicited or not.

## Query/Response Command Structure

Query commands ask the DT22 for information.
Each main body of the command structure is seperated by a comma (44 in decimal or 0x2C in hex.)

Query

- &DT,<dd>,<COMMAND>,<SUBCOMMAND>,?<cr>

- &DT will always preceed the query

- <SUBCOMMAND> may or may not be used.

- Always end in ,?<cr> (comma, question mark, carriage return)

Response:

- *DT,<dd>,<COMMAND>,<SUBCOMMAND><cr>

- *DT will always preceed the response

- <SUBCOMMAND> may or may not be used.

- Always end in <cr> ( carriage return)

---

## Dump Command Structure

Dump command structure is a query but does not follow the same response pattern as the Query command structure.  The Query command structure Response started with a * (asterisk).  Dump outputs information in XML.

## Status Command Structure

Status command structure is a query but does not follow the same response pattern as the Query command structure.  The Query command structure Response started with a * (asterisk).  Status outputs information in formatted sentences.

## Command Structure

Each main body of the command structure is separated by a comma (44 in decimal or 0x2C in hex.)

&DT,<dd>,<COMMAND>,<SUBCOMMAND><cr>
dd is the address of the command.
Valid addresses are:

- **CH**: DT22 chassis

- **ST**: Selected Tuner

- **R1**: First AM/FM radio          • **R2**: Second AM/FM radio

- **S1**: First SIRIUS module        • **S2**: Second SIRIUS module

&DT will always preceed the Command:.
<SUBCommand> may or may not be used.
<cr> carriage return will always follow the command.

## <COMMAND>

All commands will be acknowledged if they are successfully decoded.
Commands which are not understood will be ignored, and no response will be generated.
The **ACK** response will look like this: **\*DT,dd,ACK<cr>**

## Power On/Off/Toggle

**Command:**
&DT,CH,POWER,ON<cr>

**Function:**
Turns DT22 on.

**Command:**
&DT,CH,POWER,OFF<cr>

**Function:**
Turns DT22 off.

**Command:**
&DT,CH,POWER,TOGGLE<cr>

**Function:**
Toggles DT22 power state.

**Query:**
&DT,CH,POWER,?<cr>

**Function:**
Queries current power state.
This command is sent as unsolicited notifications.

**Response:**
*DT,CH,POWER,ON<cr>
or
*DT,CH,POWER,OFF<cr>

## Select

**Command:**
&DT,CH,SELECT,**nn**<cr>
**nn** = R1, R2, S1 or S2

**Function:**
Selects an AM/FM or SIRIUS radio to display on the LCD.

**Query:**
&DT,CH,SELECT,?<cr>

**Function:**
Queries the currently selected tuner.
This response is sent as unsolicited feedback.

**Response:**
*DT,CH,SELECT,R1<cr>
or
*DT,CH,SELECT,R2<cr>

## Display On

**Command:**
&DT,CH,DISPLAY,ON

**Function:**
Turns on the LCD backlight.

## Reboot

**Command:**
&DT,CH,REBOOT<cr>

**Function:**
Reboots the DT22.

---

# Config

## Status

**Query:**
&DT,CH,STATUS<cr>

**Function:**
Outputs the current operating conditions stored in the unit.
The information is in a sentence format.

---

## Config Status

**Query:**
&DT,CH,CONFIG,STATUS<cr>

**Function:**
Outputs the current configuration stored in the unit.
The information is in a sentence format.

---

## Config Preset Status

**Query:**
&DT,CH,CONFIG,PRESETS,STATUS<cr>

**Function:**
Outputs the current preset information stored in the unit.
The information is in a sentence format.

---

## Config Overrides Status

**Query:**
&DT,CH,CONFIG,OVERRIDES,STATUS<cr>

**Function:**
Outputs the current override information stored in the unit.
The information is in a sentence format.

---

## Config Dump

**Query:**
&DT,CH,CONFIG,DUMP<cr>

**Function:**
Outputs the current configuration stored in the unit.
The information is in an XML format.

---

### Config Preset Dump

**Query:**
&DT,CH,CONFIG,PRESETS,DUMP<cr>

**Function:**
Outputs the current preset information stored in the unit.
The information is in an XML format.

---

### Config Overrides Dump

**Query:**
&DT,CH,CONFIG,OVERRIDES,DUMP<cr>

**Function:**
Outputs the current override information stored in the unit.
The information is in an XML format.

---

### Config Factory Reset

**Command:**
&DT,CH,CONFIG,FACTORY-RESET

**Function:**
Sets all configuration to the factory defaults.

---

## Unit ID

**Command:**
&DT,CH,CONFIG,UNITID,**x**<cr>
**x** = 1, 2

**Function:**
Sets the unit ID of the DT22.
DT22 must be rebooted for change to take effect.

**Query:**
&DT,CH,CONFIG,UNITID,?<cr>

**Function:**
Queries the current ID of the DT22.

**Response:**
*DT,CH,CONFIG,UNITID,1<cr>
or
*DT,CH,CONFIG,UNITID,2<cr>

---

## Config RS232 Unsolicited Feedback On/Off

**Command:**
&DT,CH,CONFIG,RS232,UFB,ON<cr>

---

**Function:**
Sets **DEFAULT** state of unsolicited feedback to the RS232 port to on.
Whenever power is turned off and on, unsolicited data is set to **On** if this command was sent to the **DT22** prior to turning off.
Use **UFB On/Off** command if unsolicited data needs to be changed during operation.
Unsolicited feedback is always **On** for Ethernet by default.

**Command:**
&DT,CH,CONFIG,RS232,UFB,OFF<cr>

**Function:**
Sets **DEFAULT** state of unsolicited feedback to the RS232 port to off.
Whenever power is turned off and on, unsolicited data is set to **Off** if this command was sent to the **DT22** prior to turning off.
Use **UFB On/Off** command if unsolicited data needs to be changed during operation.
Unsolicited feedback is always **On** for Ethernet by default.

**Query:**
&DT,CH,CONFIG,RS232,UFB,?<cr>

**Function:**
To query the state of unsolicited feedback.

**Response:**
*DT,CH,CONFIG,RS232,UFB,ON<cr>
or
*DT,CH,CONFIG,RS232,UFB,OFF<cr>

## UFB On/Off (Unsolicited Feedback)

**Command:**
&DT,CH,UFB,ON<cr>

**Function:**
Turns on unsolicited feedback for the RS232 port if this command was received from the RS232 port.
Turns on unsolicited feedback for the Ethernet port if this command was received from the Ethernet port.

**Command:**
&DT,CH,UFB,OFF<cr>

**Function:**
Turns off unsolicited feedback for the RS232 port if this command was received from the RS232 port.
Turns off unsolicited feedback for the Ethernet port if this command was received from the Ethernet port.

**Query:**
&DT,CH,UFB,?<cr>

**Function:**
Queries the unsolicited feedback state during operation.
Default state of unsolicited feedback for RS232 is controlled by config value.
Default state of unsolicited feedback for Ethernet is ON.

**Response:**
*DT,CH,UFB,ON<cr>
or
*DT,CH,UFB,OFF<cr>

## Boot Version

**Query:**
&DT,CH,VERSION,BOOT,?<cr>

**Function:**
Queries current boot loader version.

**Response:**
*DT,CH,VERSION,BOOT,1.0.0.1<cr>

## Code Version

**Query:**
&DT,CH,VERSION,CODE,?<cr>

**Function:**
Queries current application version.

**Response:**
*DT,CH,VERSION,CODE,1.0.0.1<cr>

## Mode: Direct/Preset/Category

**Command:**
&DT,**dd**,MODE, **xx**<cr>

**Function:**
Puts the desired tuner in one of three modes.
**dd** = ST, R1, R2, S1, S2
**xx** = DIRECT, PRESET, CATEGORY (Category mode applies only to SIRIUS module)

**Command:**
&DT,**dd**,MODE,TOGGLE<cr>
**dd** = ST, R1, R2

**Function:**
Toggles the DT22 from **Preset** to **Direct** or from **Direct** to **Preset**.

**Command:**
&DT,**dd**,MODE,TOGGLE<cr>
**dd** = ST, S1, S2

**Function:**
Toggles the DT22 from **Preset** to **Category** or from **Category** to **Direct** or from **Direct** to **Preset**.

**Query:**
&DT,**dd**,MODE,?<cr>

**dd** = ST, R1, R2, S1, S2

**Function:**
Query the desired tuner's mode.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,MODE,DIRECT<cr>    or
*DT,R1,MODE,PRESET<cr>    etc.

## Digit

**Command:**
&DT,**dd**,DIGIT,x<cr>
**dd** = ST, R1, R2, S1, S2
**x** = 0 - 9

**Function:**
Sends a digit to the desired tuner.

## Enter

**Command:**
&DT,**dd**,ENTER<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Sends the enter key to the desired tuner.

## Cancel

**Command:**
&DT,**dd**,CANCEL<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Used to cancel some actions.

## Group

**Command:**
&DT,**dd**,GROUP,**g**<cr>
**dd** = ST, R1, R2, S1, S2
**g** = A, B, C, D

**Function:**
Selects a preset group on the desired tuner.
Changing preset groups will likely cause the current station to change.

**Query:**
&DT,**dd**,GROUP,?<cr>

**dd** = ST, R1, R2, S1, S2

**Function:**
Query the desired tuner's preset group.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,GROUP,A<cr>
or
*DT,R1,GROUP,B<cr>
or
*DT,R1,GROUP,C<cr>
or
*DT,R1,GROUP,D<cr>

## Preset

**Command:**
&DT,**dd**,PRESET,UP<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Go to next preset on the desired tuner.

**Command:**
&DT,**dd**,PRESET,DOWN<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Go to previous preset on the desired tuner.
**dd** = ST, R1, R2, S1, S2

**Query:**
&DT,**dd**,PRESET,?<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Query current preset of the desired tuner.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,PRESET,15<cr>  (Tuned to preset 15 in current group)
or
*DT,R1,PRESET,0<cr>   (Not tuned to a preset now)

**Command:**
&DT,**dd**,PRESET,**mm**<cr>
**dd** = ST, R1, R2, S1, S2
**mm** = 1 - 99

**Function:**
Tunes to preset **mm**.

**Command:**
&DT,**dd**,PRESET,SAVE<cr>

**dd** =  ST, R1, R2, S1, S2

**Function:**

Begins saving the current station to a preset.

&DT,R1,PRESET,SAVE<cr>   Preset number is specified using the **DIGIT** and **ENTER** command.
&DT,R1,DIGIT,1<cr>
&DT,R1,DIGIT,0<cr>
&DT,R1,ENTER<cr>
Current station is saved to current group's preset 10.

If two digits are given, **ENTER** is not required.
&DT,R1,PRESET,SAVE<cr>
&DT,R1,DIGIT,1<cr>
&DT,R1,DIGIT,7<cr>
Current station is saved to current group's preset 17.

Sending **ENTER** without any digits will save to the first open preset.
&DT,R1,PRESET,SAVE<cr>
&DT,R1,ENTER<cr>

Timeout is 5 seconds.  Preset WILL be saved in case of timeout.
&DT,R1,PRESET,SAVE<cr>
&DT,R1,DIGIT,3<cr>
Wait 5 seconds...
Current station is saved to current group's Preset 3.

Send CANCEL or any other command to prevent saving of preset.
&DT,R1,PRESET,SAVE<cr>
&DT,R1,DIGIT,1<cr>
&DT,R1,CANCEL<cr>
No preset is saved.

**Command:**

&DT,**dd**,PRESET,SAVE,**mm**<cr>
**dd** =  ST, R1, R2, S1, S2
**mm** = 1 - 99
**mm** = 0 will save to the first available preset.

**Function:**

Saves the current station to a given preset on currently active group.
Send **Group** command first to save to a specific group.

**Command:**

&DT,**dd**,PRESET,DELETE<cr>
**dd** =  ST, R1, R2, S1, S2

**Function:**

Begins deleting the current tuned preset.
ENTER command is required to delete.
If no preset is tuned, nothing is deleted.
&DT,R1,PRESET,DELETE<cr>
&DT,R1,ENTER<cr>

Timeout is 5 seconds.  Preset WILL NOT be deleted in case of timeout.
&DT,R1,PRESET,DELETE<cr>
Wait 5 seconds...
Current tuned preset is not deleted.

Send CANCEL or any other command to cancel a deletion.
&DT,R1,PRESET,DELETE<cr>
&DT,R1,CANCEL<cr>

### Command:
&DT,**dd**,PRESET,DELETE,ENTER<cr>
**dd** =  ST, R1, R2, S1, S2

### Function:
Deletes the current preset immediately.

## MDF (Metadata Feedback)

### Query:
&DT,**dd**,MDF,G,?<cr>
**dd** =  ST, R1, R2, S1, S2

### Function:
Query the current Genre / Category / PTY.
This response will also be sent as unsolicited feedback.

### Response:
*DT,R1,G,Rock<cr>

### Query:
&DT,**dd**,MDF,S,?<cr>
**dd** =  ST, R1, R2, S1, S2

### Function:
Query the current short station / channel name / PI.
This response will also be sent as unsolicited feedback.
This is only available and valid for some North American radio stations.

### Response:
*DT,R1,G,WKQQ<cr>

### Query:
&DT,**dd**,MDF,L,?<cr>
**dd** =  ST, R1, R2

### Function:
Query the current long station / channel name / PS.
This response will also be sent as unsolicited feedback.
In North American this may duplicate RT data.

### Response:
*DT,R1,L,98.1 The Bull - WKQQ<cr>

**Query:**
&DT,**dd**,MDF,A,?<cr>
**dd** = ST, S1, S2

**Function:**
Query the current artisit name.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,S1,A,Jeff Beck<cr>

**Query:**
&DT,**dd**,MDF,T,?<cr>
**dd** = ST, S1, S2

**Function:**
Query the current song title.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,S1,T,Amanda<cr>

**Query:**
&DT,**dd**,MDF,R,?<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Query the current RDS radio text / RT/Composer (for SIRIUS).
This response will also be sent as unsolicited feedback.

**Response:**
*DT,S1,MDF,R,Amadeus Mozart<cr>

**Query:**
&DT,**dd**,MDF,?<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Query all metadata

**Response:**
One each of the MDF Responses listed above.

## Signal

**Query:**
&DT,**dd**,SIGNAL,?<cr>
**dd** = ST, R1, R2, S1, S2

**Function:**
Query the current signal level.
Signal level from 0 to 100 percent.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,SIGNAL,100<cr>

# Preset Scan

**Command:**
&DT,**dd**,SCAN,UP<cr>
**dd** =  ST, R1, R2, S1, S2

**Function:**
Begin scanning up through all presets in the current group.
Each preset is played for 10 seconds.
Send any other command to stop scanning.

**Command:**
&DT,**dd**,SCAN,DOWN<cr>
**dd** =  ST, R1, R2,S1, S2

**Function:**
Begin scanning down through all presets in the current group.
Each preset is played for 10 seconds.
Send any other command to stop scanning.

# AM/FM Band

**Command:**
&DT,**dd**,BAND,AM<cr>
**dd** =  ST, R1, R2

**Function:**
Switch to AM band on desired tuner.
This will also switch to the last AM station played on this tuner.

**Command:**
&DT,**dd**,BAND,FM<cr>
**dd** =  ST, R1, R2

**Function:**
Switch to FM band on desired tuner.
This will also switch to the last FM station played on this tuner.

**Query:**
&DT,**dd**,BAND,?<cr>
**dd** =  ST, R1, R2

**Function:**
Query the currently selected band of the desired tuner.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,BAND,AM<cr>
or
*DT,R1,BAND,FM<cr>

---

# Tune

### Command:
&DT,**dd**,TUNE,**fffff**<cr>
**dd** =  ST, R1, R2
**fffff** =  Desired Frequency

### Function:
Tune to the given frequency.

FM: desired frequency divided by 10 kHz.
    EXAMPLE:  &DT,R1,TUNE,9810  (Tunes to 98.1 MHz)

AM: desired frequency divided by 1 kHz.
    EXAMPLE:  &DT,R1,TUNE,630  (Tunes to 630 kHz)

Not all values are valid.  Valid values depend on band and region.

### Command:
&DT,**dd**,TUNE,**ccc** <cr>
**dd** =  ST, S1, S2
**ccc** =  SIRIUS Channel Number (no leading zeros)

### Function:
Tunes to specific SIRIUS channel.

    EXAMPLE:  &DT,S1,TUNE,8<cr>  (Tunes to 80's channel)

Not all values are vaild.  Valid values depend on SIRIUS subscription.

### Command:
&DT,**dd**,TUNE,UP<cr>
**dd** =  ST, R1, R2, S1. S2

### Function:
Step up one frequency step/channel number.
Actual step size depends on band, region and SIRIUS subscription.

### Command:
&DT,**dd**,TUNE,DOWN<cr>
**dd** =  ST, R1, R2, S1, S2

### Function:
Step down one frequency step/channel number.
Actual step size depends on band, region and SIRIUS subscription.

### Query:
&DT,**dd**,TUNE,?<cr>
**dd** =  ST, R1, R2, S1, S2

### Function:
Request the currently tuned frequency/channel number.
This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,TUNE,10010<cr>  (In units of 10kHz for FM)    or
*DT,R1,TUNE,1630<cr>    (In units of 1kHz for AM)      or
*DT,S1,TUNE,8<cr>           (3 digit SIRIUS channel)      etc.

## Seek

**Command:**
&DT,**dd**,SEEK,UP<cr>
**dd** =  ST, R1, R2

**Function:**
Seek up to next valid station.

**Command:**
&DT,**dd**,SEEK,DOWN<cr>
**dd** =  ST, R1, R2

**Function:**
Seek down to next valid station.

## Stereo

**Command:**
&DT,**dd**,STEREO,ON<cr>
**dd** =  ST, R1, R2

**Function:**
Attempt to force stereo decoding on.
If a stereo signal is not present, this will do nothing.

**Command:**
&DT,**dd**,STEREO,OFF<cr>
**dd** =  ST, R1, R2

**Function:**
Attempt to disable stereo decoding.
Switching stations will clear this request.

**Command:**
&DT,**dd**,STEREO,TOGGLE<cr>
**dd** =  ST, R1, R2

**Function:**
Attempt to toggle stereo decoding on and off.
If stereo signal is not preset, this will do nothing.
Switching stations will clear this request.

**Query:**
&DT,**dd**,STEREO,?<cr>
**dd** =  ST, R1, R2

**Function:**
Query whether current station is playing in stereo.

This response will also be sent as unsolicited feedback.

**Response:**
*DT,R1,STEREO,ON<cr>
*DT,R1,STEREO,OFF<cr>

# Appendix C: Connecting Optional SIRIUS Tuner Modules

### Connecting the Sirius tuner module to the DT22/DT11

1) Refer to the instructions included with the Sirius tuner module (sold separately) for detailed installation information.

2) Connect the Sirius tuner module to the DT22/11 using the 8 pin DIN cable supplied with the tuner.

### Displaying the signal strength meter

Using the front panel buttons;

1) Turn the unit on by depressing the **TUNER** button for 2 seconds.
2) Select Sirius Tuner 1 by pressing the **TUNER** button.
3) Press and hold **MODE** button for 2 seconds.
4) Press **ENTER** to select **Signal Details**.
5) Satellite and Terrestrial signal strength bar graphs are displayed.
6) Adjust antenna for maximum signal levels.
7) Repeat process above for Sirius Tuner 2 (DT22 only).

### Connecting RCA outputs to system

See the diagram on page 16

### A note about activation of the tuner

SIRIUS Radio is a subscription service and each tuner must be activated.  Tune your SIRIUS radio to station 184 and then;

Call 1-888-539-SIRIUS

          -OR-

Contact SIRIUS on the Internet at: https://activate.siriusradio.com/

You'll need a credit card and the SIRIUS tuner module ID(s) you wish to activate.  The 12 digit tuner ID can be found on the tuner module, module packaging or by tuning to channel 0.

**Choosing Sirius tuner 1 or 2 (DT22 only) from the front panel**

    1) Press **TUNER** repeatedly until Sirius 1 or Sirius 2 is displayed

**Choosing Sirius tuner 1 or 2 (DT22 only) from the remote control**
    2) Press the **SIRIUS 1** or **SIRIUS 2** button

**Direct Mode Operation**

The Direct mode of operation allows the user to choose any Satellite radio station.

Choosing direct mode from the front panel:
    1) Press the **MODE** button, highlight **Direct** using the Up/Down arrows then press **Enter**
    2) While in direct mode:
        a. Left/Right arrows select the previous/next station
        b. Up/Down arrows select the next/previous Category

Choosing direct mode from the Remote Control

    1) Press the **DIRECT** button
    2) While in direct mode:
        a. Left/Right arrows select the previous/next station
        b. Up/Down arrows select the next/previous Category
        c. Use the number pad to enter the 3 digit station number and jump directly to that station (i.e. 0-0-8)
            or the 1 or 2 digits plus enter

**Category Mode Operation**

While in Category mode, the unit will only display channels that reside in the currently selected category (i.e. Pop, Rock, Country, etc.)

Choosing category mode from the front panel:

    1) Press the **MODE** button,
    2) Highlight **Category** using the Up/Down arrows then press **ENTER**

While in Category mode:
        a. Left/Right arrows select the previous/next station within the Category
        b. Up/Down arrows select the next/previous Category

Choosing Category mode from the Remote Control

    1) Press the **CATEGORY** button

2) While in Category mode:

     a. Left/Right arrows select the previous/next station within selected category

     b. Up/Down arrows select the next/previous Category

     c. Enter 3 digit station number to jump directly to that station (i.e. 0-0-8)

## Preset Mode Operation

Choosing preset mode from the front panel:

1) Press the **MODE** button, highlight **Preset** using the Up/Down arrows then press **ENTER**

2) While in Preset mode:

     a. Left/Right arrows select the previous/next station

     b. Up/Down arrows select the next/previous Preset

Choosing Preset Mode from the remote control:

1) Press **PRESET A**, **B**, **C**, or **D**

2) While in Preset mode:

     a. Pressing **PRESET** Up/Down arrows chooses the next/previous preset

     b. Entering the 2 digit preset number (01-99) selects a preset station

     c. Left/Right arrows select the previous/next station

     d. Up/Down arrows select the previous/next station

## Storing a preset (A,B,C,D)

The DT22 allows for up to 396 Sirius presets that are shared across both tuners.  These presets are identified as A01 – A99, B01-B99, C01 – C99, and D01 – D99.

1) Using the front panel, press **MODE** then use Up/Down/Enter to select **Preset Group A**, **B**, **C**, or **D**.  Tune to the Sirius station you wish to store.  Press **MEMORY**, select **Save Preset**.  Use Up/Down/Left/Right/Enter to select first and second digit of preset number.  Press **ENTER** and then choose **Save**.

2) Using the remote control press **PRESET A, B, C,** or **D**.  Select Sirius station to be stored.  Press **MEMORY** button. Use the number pad to enter two digits for preset to be stored (01-99).

## Recalling a preset (A,B,C,D)

1) Using the remote control, press **PRESET A, B, C,** or **D**.  Use the number pad to enter the two digit prese number (01-99).

## Displaying the Sirius Firmware Version and Product ID

1) Press and hold **MODE** for two seconds.  Use Up/Down/Enter to select **Module info**.

## Viewing the DT22/DT11 firmware version

1) Turn the unit off by depressing the TUNER button for 2 seconds.  The firmware version will appear at the bottom of the front panel display (ex. Version 1.1.0.6)

**NOTE:**

This product uses the FreeRTOS.org real time kernel.

The FreeRTOS.org source code can be obtained by visiting http://www.FreeRTOS.org.

FreeRTOS LICENSING (from):

"The FreeRTOS source code is licensed by the GNU General Public License (GPL) with an exception.

The full text of the GPL is available here: http://www.freertos.org/license.txt.

The text of the exception is available on FreeRTOS official website: http://www.FreeRTOS.org - License and Warranty Page

The exceptions permits the source code of applications that use FreeRTOS soley through the API published on this WEB site to remain closed source, thus permitting the use of FreeRTOS in commercial applications without necessitating that the whole application be open sourced. The exception should only be used if you wish to combine FreeRTOS with a proprietary product and you comply with the terms stated in the exception itself."

**lwIP**

Copyright (c) 2001-2004 Swedish Institute of Computer Science.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. *Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.*
2. *Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.*
3. *The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.*

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# Limited Warranty

ELAN HOME SYSTEMS L.L.C. ("ELAN") warrants the DT22 Dual AM/FM Tuner to be free from defects in materials and workmanship for the period of two years (2 years) from date of purchase. If within the applicable warranty period above purchaser discovers that such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the item at the company's option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment which shall have been installed by other than an ELAN authorized installer, (c) to installed equipment which is not installed to ELAN's specifications, (d) to equipment which shall have been repaired or altered by others than ELAN, (e) to equipment which shall have been subjected to negligence, accident, or damage by circumstances beyond ELAN's control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or other catastrophic events beyond ELAN's control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by ELAN, the warranty obligations of ELAN shall in all respects conform to the warranty actually extended to ELAN by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation or other expenses which may be incurred in connection with repair or replacement.

Except as may be expressly provided and authorized in writing by ELAN, ELAN shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by ELAN or services rendered by ELAN.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES EXCEPT WARRANTIES OF TITLE, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

ATTENTION: TO OUR VALUED CONSUMERS

To ensure that consumers obtain quality pre-sale and after-sale support and service, ELAN Home Systems products are sold exclusively through authorized dealers. ELAN products are not sold online. The warranties on ELAN products are NOT VALID if the products have been purchased from an unauthorized dealer or an online E-tailer. To determine if your ELAN reseller is authorized, please contact ELAN Home Systems at (859) 269-7760. www.elanhomesystems.com

**ELAN**®
H O M E   S Y S T E M S
www.elanhomesystems.com
Lexington, KY

P/N 9900974 REV A

Free Manuals Download Website

[http://myh66.com](http://myh66.com)

[http://usermanuals.us](http://usermanuals.us)

[http://www.somanuals.com](http://www.somanuals.com)

[http://www.4manuals.cc](http://www.4manuals.cc)

[http://www.manual-lib.com](http://www.manual-lib.com)

[http://www.404manual.com](http://www.404manual.com)

[http://www.luxmanual.com](http://www.luxmanual.com)

[http://aubethermostatmanual.com](http://aubethermostatmanual.com)

Golf course search by state

[http://golfingnear.com](http://golfingnear.com)

Email search by domain

[http://emailbydomain.com](http://emailbydomain.com)

Auto manuals search

[http://auto.somanuals.com](http://auto.somanuals.com)

TV manuals search

[http://tv.somanuals.com](http://tv.somanuals.com)