

## Subscriber Systems



### Model 8633 PAL B/G Addressable Home Terminal with On-Screen Display



#### FEATURES

- Dual language on-screen displays available in various languages provides subscribers with an easy-to-use interface.
- Languages available are
  - Kings' English with
    - French, German, Dutch, Italian, Spanish or Bahasa/Malaysia
  - Spanish with Catalan
- Pay-per-view event confirmation reduces unnecessary subscriber telephone calls to the cable operator.
- Eight-event, 14-day, on-screen program timer simplifies unattended recording.
- Group and individual message capabilities expand cable operators' marketing and revenue-generating opportunities.
- Multi-mode RF and baseband scrambling enhances system security.
- Motorola secure microprocessor enables unique permanent digital address for each home terminal, highly tamper resistant.
- 860 MHz tuning is a standard feature in PAL B/G video format.
- Dual language audio option is available.
- SCART option is available.
- WorldGate Internet option is available\*.
- Impulse pay-per-view (IPPV) (optional).

In 1991, Scientific-Atlanta led the industry by introducing the Model 8600 Addressable Home Terminal with an integrated on-screen display. Recognized for highest quality and performance, the 8600 Home Terminal family has become the cornerstone of addressable CATV markets. Even today, cable operators looking to add addressable services or upgrade existing addressable services are employing the 8600 and now the 8633 addressable home terminal as the solution to greater revenue opportunities.

The Model 8633 Addressable Home Terminal is easy to use for both subscribers and cable operators. Subscribers value the easy control the 8633 Addressable Home Terminal provides them for access to their cable services. Operators value the ease of system deployment, operation, and maintenance —benefits that result from a premier, quality product.

## EASY FOR SUBSCRIBERS

### *Dual Language On-Screen Display*

Scientific-Atlanta's Model 8633 Addressable Home Terminal features a revolutionary on-screen display that can operate in a choice of two different languages. By going into the main menu, subscribers can choose which language they want for the on-screen displays and menus. They will be able to choose from Dutch/English, German/English, Italian/English, Portuguese/English, French/English or Spanish/Catalan or Spanish/English. The on-screen display provides the cable operator with the ability to perform messaging functions as well as the capability of creating and using custom-made barker channels.



### *Automatic Pay-Per-View Event Confirmation*

The Model 8633 Addressable Home Terminal lists those pay-per-view events and movies for which subscribers are authorized, reducing unnecessary telephone calls to cable operators to confirm pay-per-view orders. When subscribers select this option, authorized events are



listed by channel, event number, and event description. A description of up to 24-characters long can be downloaded from the pay-per-view schedule through the host billing system.

### *Identify Cable-Exclusive Programming With Channel Names*

Whenever subscribers change channels or press the Display key on the remote control, the home terminal indicates the channel number, the current time (in 12-hour or 24-hour format), and the program ID. This information is automatically downloaded from the headend to each home terminal to reflect changes in channel lineups and to reflect the correct time even after power outages.

The program ID instantly differentiates cable-exclusive channels from broadcast channels, increasing subscribers' awareness of the range of programming services offered. Displaying the program ID also makes it easier for subscribers to navigate cable systems that have a large numbers of channels.

### ***Mute and Volume Control Display***

The 8633 Addressable Home Terminal presents an intuitively clear graphic display of relative volume level and mute, virtually eliminating subscribers' confusion over volume settings.

### ***Dual Language Capabilities***

The Model 8633 Home Terminal includes a feature that allows subscribers to choose which audio source they will for channels being broadcast in a dual-audio mode. This feature provides the subscriber with the ability to choose which language they will hear when listening to their favorite programming. The dual-audio option in the home terminal will serve as an "upgrade" for subscribers who own televisions that do not currently support the dual-audio capabilities.

## **OTHER FEATURES SUBSCRIBERS VALUE**

- An 8-event, 14-day program timer allows unattended VCR recording of premium programming.
- The optional factory-integrated IPPV option provides the subscriber with easy, one-touch purchasing of pay-per-view events from either the remote control or the home terminal.
- The easy-to-use parental control capability allows subscribers to clearly designate channels under parental control. The 5-digit access code can be changed using either the on-screen display or the System Manager Control System.
- Favorite channel control allows a list of up to 128 channels to be easily scanned, selected, and reviewed.



- The helpful sleep timer feature turns off the home terminal after the time designated by the subscriber—either 15, 30, 45, 60, 90 or 120 minutes.
- The 4-digit LCD displays the time of day when enabled by the subscriber.

## **EASY FOR OPERATORS**

### ***Welcome On-screen Barker Distinguishes Your Cable Service From Competitors***

A customized welcome on-screen barker of up to 240 characters reinforces name identification of your cable service with subscribers and allows you to promote pay-per-view and other revenue-generating services. This branding message helps set your cable service apart from competitors. As your marketing strategy dictates, you can change your welcome message as often as you like. Send the message in both languages and the home terminal only displays the message in the language that the subscriber has chosen.

### ***Other On-screen Channel Barkers***

On-screen channel barkers solve the problem of dedicated video barker channels. When subscribers tune a channel for which they are not authorized, the home terminal can display an operator-defined barker message explaining, for example, how to order the channel. The barker message for a particular premium channel can be up to 240-characters long and includes the channel number and name that displays on a colored background. System operators can display different barkers for PPV, premium, unused, and parentally-controlled channels.

### ***Value-Added Group and Individual Messaging***

The 8633 Addressable Home Terminal messaging capabilities create flexible marketing opportunities for cable operators. With the dual-language capability, the message will appear in the language chosen by the subscriber. Message applications include: cable system promotions, past-due reminders, public service announcements, and targeted advertising. System operators can define up to 64 different home terminal groups and send messages to all terminals within each group. Operators may also individually address messages to one or more home terminals. When the 8633 Addressable Home Terminal receives a message, an alert is overlaid on the video that informs the subscriber "You have a message." If the home terminal is turned off, the message LED on the home terminal's front panel will flash until the subscriber retrieves the message.

### ***Baseband Scrambling for Maximum Security***

The Model 8633 Addressable Home Terminal provides optimum security. Dynamic video baseband and RF sync-suppression scrambling techniques protect premium and PPV channels from theft of service. Signal security is further enhanced through the use of "in-band" conditional access. Provisioning transactions are transmitted as part of the program signal, making it virtually impossible to block network control transactions to the terminal.

### ***Expanded Tuning Range***

Standard 860 MHz tuning bandwidth provides operators the flexibility to offer expanded PAL B/G analog channels.

### ***Complete Addressable Control***

Scientific-Atlanta's proven System Manager 20 controls the functions of the Model 8633 Addressable Home Terminal, including:

- Premium service and PPV event authorization
- Individual channel authorizations
- Program timer
- Volume control
- IPPV purchase capability

### ***Operator Ease and Flexibility***

Downloadable frequency assignments and output channels provide continued flexibility for cable operators. The 8633 Addressable Home Terminal allows the association of any channel number with any frequency and also allows the frequency output of the terminal to be selectively assigned to either VHF or UHF output channels. Operators can choose which home terminal model they want to allow for output on either Channel E3 or E4, Channel 34 to 43, or Channel 51 to 60.

All critical home terminal data is stored in sealed, true, non-volatile memory that never requires a battery and is not affected by power outages.

### ***Set-Top Control***

Set-top control is a new feature that allows subscribers to control home terminal features and provides a status screen for easy diagnostics. Subscribers can also control whether the on-screen display appears.

## SPECIFICATIONS

### ***Environmental***

Temperature  
0°C to 45°C  
Relative humidity  
5% to 95%

### ***Electrical***

Electrical input bandwidth  
48 MHz to 860 MHz  
Number of channels  
108  
Output channel, downloadable  
Channel E3 or E4 (55.25 or 62.25 MHz) (VHF Standard Output)  
Channel 34 to 43 (575.25 - 647.25 MHz) (UHF Optional Output)  
Channel 51 to 60 (711.25 - 783.25 MHz) (UHF Optional Output)  
Video carrier output level  
+6 to +15 dBmV  
Video depth of modulation  
85%  $\pm$  3.5%  
Video S/N  
42.8 dB  
Distortion at +15 dBmV Flat input  
Composite Second order -57 dB  
Cross modulation (67 channels) -57 dB  
Composite triple beat -57 dB  
Operating input level  
-7 dBmV to +20 dBmV  
Noise figure  
10 dB  
Return loss  
Input 6 dB  
Output 10 dB  
Spurious response  
Output -57 dBc  
Output frequency accuracy  
 $\pm$ 100 kHz, VHF or UHF  
Isolation  
-60 dB  
Audio carrier level  
-14 dB below video carrier  $\pm$  3 dB  
Audio carrier deviation  
50 kHz  $\pm$  5 kHz nominal  
35 kHz  $\pm$  5 kHz (when NICAM present)

Audio distortion  
THD 2.5% max  
Audio signal-to-noise  
50 dB  
AC input voltage  
220 V AC to 230 V AC,  $\pm$ 10%  
AC input frequency  
50 Hz,  $\pm$ 5 Hz  
Power consumption  
15 Watts, max  
Surge protection  
AC Spark gaps and transformer isolation  
RF Inductor shunt to ground

### ***Mechanical***

Dimensions  
Asia 232 mm x 185 mm x 65 mm  
Europe 265 mm x 200 mm x 65 mm  
Weight  
Asia 1.5 kg  
Europe 1.95 kg  
Keyboard type  
11 keys (front access)  
Display type  
LED 4-digit, 7-segment with decimal point  
On-screen Display  
24 Characters by 10 lines with 128 character set  
Baseband video output  
1 Vpp into 75  $\Omega$   
Baseband audio output  
1/2 VRMS into a 47 k $\Omega$  load

## IPPV MODULE SPECIFICATIONS

### ***RF Return (Optional)***

Frequency range  
15.45 MHz to 17.75 MHz  
Modulation rate  
20 kbps  
Modulation technique  
BPSK  
Maximum output power  
+60 dBmV

System Release 4.6 and related components must be used with your System Manager for this product to continue to operate on and after December 31, 1999, substantially as it did prior to that date.

\* Requires some development time.

Unless otherwise noted, specifications are typical.

Specifications and product availability are subject to change without notice.

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