



Rohde & Schwarz Australia

Submission to the Department of Communications,

Information Technology and the Arts

In response to

Digital conversion of self-help television retransmission sites

Discussion paper

June 2007

Digital TV is for Life

Introduction

1.1 Overview

Rohde & Schwarz GmbH

Rohde & Schwarz GmbH is a company with a global presence in the fields of test and measurement, information technology and communications. For more than 70 years the company group has been developing, producing and marketing a wide range of electronic goods for the capital goods sector. The company is headquartered in Munich. With 6,900 employees worldwide and subsidiaries and representatives in over 70 countries around the world, the Rohde & Schwarz group achieved an annual turnover of €1.33 billion I fiscal year 2005/2006.

Due to the comprehensive know-how and the innovative strength of its employees, Rohde & Schwarz is among the market leaders in all its business fields.

Today the Rohde & Schwarz group is active in the following fields

Test and Measurement

T&M instruments and systems for communications and electronics

Radiomonitoring and radiolocation

Systems for regulatory authorities and government agencies

Services – Global and local services in our fields of activities

Secure Radiocommunications

- Radiocommunications systems
- Professional mobile radio
- Communications security

Broadcasting

Sound and TV broadcasting and measuring equipment

1.2 Key Points

Converting self-help retransmission broadcast services to a digital service provides an ideal opportunity to expand the services received in each community and to include local content.

In this submission, Rohde & Schwarz wishes to make the following points

- ❖ The provision of new DVB-T self-help retransmission facilities should be managed in the same way as the provision of TV or Radio broadcast infrastructure used by a regional or metropolitan broadcasters.
- ❖ Using MPEG4 encoded content to ensure adequate local content is provided

1.3 Project Accountability

The indicative cost mentioned in the discussion paper indicates the size and complexity of the replacement program. However the scheme is funded, its magnitude requires co-ordination of product supply, resources for installation, accountability with management and administration across the various parties involved to achieve a successful conversion and demonstrate value for money.

However, there are unknown factors which must be considered in re-using existing infrastructure. For some sites, the distance between the re-transmitter site and the networked broadcast transmitter providing the off air re-transmission service(s) may not allow a local re-transmission without a high error rate.

Providing satellite fed services would overcome reception issues allowing a consistent local re-transmission.

1.4 Equipment Support

There are several issues arising out of the current self-help retransmission programs where broadcast equipment has been sold to local councils or communities, which has subsequently become faulty, is outside of warranty with poor or non existent equipment support. It is also likely that few self-help installations will be subject to an annual or other regular maintenance inspection, either because of cost or being unaware of the requirement.

These problems have become an additional frustration and additional financial expense for the community and to the regional and national broadcast networks providing the content and who are unable to provide assistance because of the self help nature of the installation.

The omission of technical advice to equipment purchasers, without a central supplier helpdesk is one of the key omissions in the provision of funding for the provision of self help analogue TV services.

To support the argument that the conversion program should be regarded in the same way as a regional or metropolitan broadcast network, equipment suppliers, system integrators and field engineers used for this conversion program and any test equipment used as part of the installation or subsequent site support should meet minimum technology standards.

1.5 The Digital Dividend

The assumption is made that the same spectrum used for the provision of analogue TV re-transmission services will be used for conversion to digital services. However, there is an option prior to the commencement of this exercise to re-allocate the spectrum for the DVB-T local re-transmission to other frequencies in Band V releasing blocks of spectrum for future communications applications.

1.6 Changeover Model

The preferred changeover model is to use the same broadcast spectrum for the new DVB-T service as the existing analogue service. This method requires a minimum of spectrum engineering required. This model would have a switch over from analogue to a DVB-T service at a predefined date and time.

If the decision is to have a simulcast period as part of the changeover model, then spectrum engineering for each site will be required to be provided by the National Allocations and Licensing Branch within the ACMA. A return visit will also be required to turn the analogue systems off to ensure that there are no problems and the equipment de-activated so that it can no longer operate, and adding costs to the program.

Digital reception difficulties

With the simulcast of ATV and DVB-T services since 1 Jan 2001, many reception issues can be traced back to a poor domestic antenna and cable. The presence of an antenna installer in the community would be beneficial during the first phase of the changeover to manage these problems. Any costs associated with this work would be paid locally for the work done.

It may also be the case where the domestic TV reception uses an indoor antenna, commonly referred to as “rabbit ears”, and which would benefit from a DVB-T transmitter using a 5W transmitter as the minimum power. It is unlikely that this would cause interference problems due to the remoteness of many communities.

1.7 Timing of the conversion program

Switch off of the analogue TV services is currently planned to occur between 2010 and 2012. This timetable dictates that the off air fed self help services should be converted to DVB-T first as the AURORA platform uses a digitally converted signal.

◆ Community readiness for the conversion

Whether a simulcast or non-simulcast changeover model is used, prior to the switch off of the analogue TV broadcast service(s) within a community, a marketing exercise will be required in the preceding 3 months before switchover, to educate the community in the benefits of the digital TV service, the choices of digital receiver in the market place and managing reception issues. Such a campaign would have to be separately funded and could be managed using the resources of one of the Australian consumer electronic forums.

1.8 Multiplexing Services

Australia has led the way in digital broadcast technology, being innovative in the selection of an HDTV service using MPEG2 encoding and more recently with the mandating of DAB+ using AAC+ encoded audio content in the metropolitan centres. A service is due to commence on 1 Jan 2009.

Adopting an MPEG4 encoded service, limited to standard definition video encoding provides the opportunity to include local content, additional radio or TV services to those communities who do not receive both national services and which is future proofed for the next 10 years. The encoding and insertion of local content could be done as a service, at a regional broadcast network play out centre.

There are no legacy issues with those communities using a satellite fed self help terrestrial retransmission as this is a new service. However, it is accepted that the DTH services would be affected and this could be overcome by the inclusion as part of the conversion of a basic MPEG2/MPEG4 receiver.

1.9 Content and Distribution

Satellite Delivery

The benefits of a satellite delivery service to the self-help re-transmission site, rather than using an off-air feed are many and would overcome reception problems in rural areas which rely on an off air feed. The downside is that there are limited opportunities with the analogue TV satellite feeds to include local content.

Local Content

The importance of local content in commercial broadcast networks has been recognised by DCITA and is monitored and reported by the ACMA on a half year basis

Services including local content could be assembled at a central point and inserted in a transport stream prior to uploading to a satellite platform. The encoding and insertion of local content could be done, as a service, at a regional broadcast network play out centre.

